Alan C. Lloyd, Ph.D.
Agency Secretary

State Water Resources Control Board

Office of Chief Counsel
1001 I Street, 22nd Floor, Sacramento, California 95814
P.O. Box 100, Sacramento, California 95812-0100
(916) 341-5161 ♦ FAX (916) 341-5199 ♦ http://www.waterboards.ca.gov

Arnold Schwarzenegger
Governor

JAN 0 7 2005

CALIFORNIA ENVIRONMENTAL QUALITY ACT REQUIREMENTS

The State Water Resources Control Board (SWRCB) (hereinafter referred to as the State Board) is the Lead Agency for evaluating the environmental impacts of the proposed amendment to the *Water Quality Control Plan for the Los Angeles Region (Basin Plan)*. The proposed amendment removes the potential REC-1 beneficial use for "Ballona Creek," and replaces the potential REC-1 beneficial use for "Ballona Creek to Estuary" with an existing Limited REC-1 use. The Secretary of Resources has certified the basin planning process as exempt from certain requirements under the California Environmental Quality Act (CEQA), including preparation of an initial study, a negative declaration and environmental impact report (California Code of Regulations, title 14, section 15251). As this proposed amendment to the Basin Plan is part of the basin planning process, the environmental information developed for and included with the amendment is considered "functionally equivalent" to an initial study, negative declaration, and environmental impact report.

Any regulatory program certified as functionally equivalent, however, must satisfy the documentation requirements of California Code of Regulations, title 23, section 3777(a), which requires the following:

- A written report providing:
  - a description of the proposed activity;
  - reasonable alternatives to the proposed activity; and
  - mitigation measures to minimize any significant adverse impacts.
- A completed environmental checklist that includes:
  - a checklist of environmental impacts;
  - a discussion of the environmental evaluation; and
  - a determination with respect to significant environmental impacts.

The attached checklist and the Basin Plan Amendment to Remove the Potential REC-1 Beneficial Use for "Ballona Creek," and Replace the Potential REC-1 Beneficial Use for "Ballona Creek to Estuary" with an existing Limited REC-1 Use, fulfill the requirements specified under section 3777, subdivision (a).

I. DESCRIPTION OF PROPOSED ACTIVITY

The Basin Plan designates beneficial uses of waterbodies, establishes water quality objectives for the protection of these beneficial uses, and outlines a plan of implementation for maintaining and enhancing water quality.

II. ENVIRONMENTAL IMPACTS

The Basin Plan amendment will delete the REC-1 beneficial use of "Ballona Creek," and downgrade REC-1 to Limited REC-1 in "Ballona Creek Estuary." The effect of this change will be to modify the applicable water quality objective to reflect the limited use.

	Environmental Impacts YES/MAYBE/NO
1. Earth. Will the proposal result in:	
a. Unstable earth conditions or in changes in geologic substructures?	No
b. Disruptions, displacements, compaction or overcoming of the soil?	No
c. Change in topography or ground surface relief features?	No
d. The destruction, covering or modification of any unique geologic or physical features?	No
e. Any increase in wind or water erosion of soils, either on or off the site?	No
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?	No
g. Exposure of people or property to geologic hazards, such as earthquakes, landslides, mudslides, ground failure, or similar hazards?	No
2. Air. Will the proposal result in:	
a. Substantial air emissions or deterioration of ambient air quality?	No
b. The creation of objectionable odors?	No
c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?	No

3. Water. Will the proposal result in:

a. Changes in currents, or the course of direction or water movements, in either marine or fresh waters? No

b. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff? No

c. Alteration to the course of flow of flood waters? No

d. Change in the amount of surface water in any water body? No

e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity? No

f. Alteration of the direction or rate of flow of ground waters? No

g. Change in the quantity or quality of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations? No

h. Substantial reduction in the amount of water otherwise available for public water supplies? No

i. Exposure of people or property to water related hazards such as flooding or tidal waves? No

4. Plant Life. Will the proposal result in:

a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants)? No

b. Reduction of the numbers of any unique, rare or endangered species of plants? No

c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species? No

d. Reduction in acreage of any agricultural crop? No

5. Animal Life. Will the proposal result in:

a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna)? No

b. Reduction of the numbers of any unique, rare or endangered species of animal? No

c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals? No

d. Deterioration to existing fish or wildlife habitat? No

6. Noise. Will the proposal result in:

a. Increases in existing noise levels? No

b. Exposure of people to severe noise levels? No

7. Light and Glare. Will the proposal:

a. Produce new light or glare? No

8. Land Use. Will the proposal result in:

a. Substantial alteration of the present or planned land use of an area? No

9. Natural Resources. Will the proposal result in:

a. Increases in the rate of use of any natural resources? No

b. Substantial depletion of any nonrenewable natural resource? No

10. Risk of Upset. Will the proposal involve:

a. A risk of an explosion or the release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions? No

11. Population. Will the proposal:

a. Alter the location, distribution, density, or growth rate of the human population of an area? No

12. Housing. Will the proposal:

a. Affect existing housing, or create a demand for additional housing? No

13. Transportation/Circulation. Will the proposal result in:

a. Generation of substantial additional vehicular movement? No

b. Effects on existing parking facilities, or demand for new parking? No

c. Substantial impact upon existing transportation systems? No

d. Alterations to present patterns of circulation or movement of people and/ or goods? No

e. Alterations to waterborne, rail or air traffic? No

f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians? No

14. Public Service. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:

a. Fire protection? No

b. Police protection? No

c. School? No

d. Parks or other recreational facilities? No

e. Maintenance of public facilities, including roads? No

f. Other governmental services? No

15. Energy. Will the proposal result in:

a. Use of substantial amounts of fuel or energy? No

b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy? No

16. Utilities and Service Systems. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: a need

a. Power or natural gas? No

b. Communications systems? No

c. Water? No

d. Sewer or septic tanks? No

e. Storm water drainage? No

f. Solid waste and disposal? No

17. Human Health. Will the proposal result in:

a. Creation of any health hazard or potential health hazard (excluding mental health)? No, see Note, page 7

b. Exposure of people to potential health hazards? No, see Note, page 7

18. Aesthetics. Will the proposal result in:

a. The obstruction of any scenic vista or view open to the public? No

b. The creation of an aesthetically offensive site open to public view? No

19. Recreation. Will the proposal result in:

a. Impact upon the quality or quantity of existing recreational opportunities? No, see Note, page 7

20. Archeological/Historical. Will the proposal result:

a. Result in the alteration of a significant archeological or historical site structure, object or building? No

21. Mandatory Findings of Significance:

Potential to degrade: Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of

a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? No

Short-term: Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.) No

Cumulative: Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.) No

Substantial adverse: Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? No

Note: Amending the potential REC-1 use to an existing limited REC-1 will result in a higher single sample limit for E. coli density in "Ballona Creek to Estuary," while the geometric mean limit will remain the same. In the "Ballona Creek" segment, where access is severely restricted, REC-1 will be removed but REC-2 bacteria standards will still apply. These modifications are considered to be protective of human health when considering the frequency of use and is not expected to impact the quality or quantity of existing recreational opportunities. The lack of access and limited and infrequent use of these reaches reduce opportunities for water contact and hence the associated risk.

III. DETERMINATION

Expand on all "YES" and "MAYBE" answers given to the preceding questions in regard to environmental impacts. The evaluation shall consider whether the environmental impact indicated will have a substantial, adverse change in any of the physical conditions within the area affected by the activity. In addition, the evaluation should discuss environmental effects in proportion to their severity and probability of occurrence. (Use additional pages if necessary.)

There are "YES" and "MAYBE" answers given to the preceding questions in regard to environmental impacts.

On the basis of this initial evaluation:

_X_ I find the proposed Basin Plan amendment could not have a significant effect on the environment.

___ I find the proposed Basin Plan amendment could have a significant adverse effect on the environment. However, there are feasible alternatives and/or feasible mitigation measures that

would substantially lessen any significant adverse impact. These alternatives are discussed in the attached written report.

___ I find the proposed Basin Plan amendment may have a significant effect on the environment. There are no feasible alternatives and/or feasible mitigation measures available which would substantially lessen any significant adverse impacts. See the attached written report for a discussion of this determination.

Dated: 1/7/05

for Craig M. Wilson

Celeste Cantú
Executive Director

January 6, 2005

RESPONSE TO COMMENTS
On
PROPOSED BALLONA CREEK AMENDMENTS

1. Comment: The proposed LREC-1 use for Ballona Creek Reach 2 should be "potential" rather than "existing."

   Response: Evidence in the record supports designating this use as an existing use. In addition to the direct field observation of a woman walking her dog, the questionnaires and e-mail survey indicate that water contact activities occur in Reach 2. There is also creek access in at least 2 locations, the creek sides are sloped, and parks and homes are adjacent to the creek in this reach.

2. Comment: It is unnecessary to designate LREC-1 for Reach 2 because the reach already is designated for REC-2.

   Response: We disagree. Unlike the United States Environmental Protection Agency (U.S. EPA), the state includes wading in its definition of REC-1, water contact recreation. Water ingestion is possible in this reach although it is likely to be infrequent. The LREC-1 use will be more protective of water contact activities in this reach than REC-2.

3. Comment: A more appropriate bacteriological water quality objective must be adopted for LREC-1, consisting of either of 2 alternatives recommended by U.S. EPA for secondary contact recreation.

   Response: As stated above, the state defines primary contact recreation to include wading. Consequently, the U.S. EPA bacteriological criteria for primary contact recreation in areas infrequently used are more appropriate for Reach 2. Also, a U.S. EPA representative testified at the Los Angeles Regional Water Quality Control Board's (Regional Board) hearing in June 2003 that the proposed bacteriological objectives were consistent with U.S. EPA's bacteriological guidance.

4. Comment: Finding 12 of the draft resolution adds aquatic life uses to those uses intended to protect the Clean Water Act's "fishable" goal in section 101(a)(2).

   Response: The commenters misinterpret Finding 12. The warm freshwater habitat (WARM) use does not include the activity of fishing. This use does, however, foster the Clean Water Act's fishable goal by protecting habitat for warm water fish species.

5. Comment: The REC-1 use should not include the activity of fishing.

Response: The State Water Resources Control Board (State Board) already decided in a precedential decision in Order WQO 2003-0012 that the REC-1 use appropriately includes recreational fishing.

6. Comment: The draft order neither addresses whether fishing is a viable recreational use in these waters nor whether the proposed objectives for LREC-1 are appropriate.

   Response: The proposed amendment is limited to the "swimmable" aspects of REC-1 because the Regional Board's use attainability analysis (UAA) was limited to swimming-related activities. The Regional Board did not analyze recreational fishing; consequently, there is no evidence in the record on this issue. See Comment 3 for a discussion of the LREC-1 objectives.

7. Comment: The Ballona Creek Watershed Management Plan identifies other water goals not mentioned in the staff report that are relevant to a discussion of recreational uses for the creek. The task force has, in fact, encouraged two projects by stakeholders involving restoration of the estuary and bike path improvements. The stakeholders represent diverse interests with different viewpoints on these topics.

   Response: Comment noted.

8. Comment: The UAA prepared by Regional Board staff was inadequate. The report was not supported by sufficient data.

   Response: We disagree. U.S. EPA representatives complimented Regional Board staff on the quality and thoroughness of the UAA. The report was prepared consistently with U.S. EPA's bacteriological guidance.

9. Comment: The State Board should not develop new use definitions in an order. The process followed by the State Board in this case sets a bad precedent.

   Response: Regional Board staff developed the proposed new use definition and accompanying bacteriological objectives to support the use. The Regional Board conducted a hearing in June 2003 on the proposal. The State Board is reviewing the Regional Board's failure to adopt the staff recommendation on its own motion. As part of its review, the State Board is authorized to adopt the recommendation itself.

USE ATTAINABILITY ANALYSIS FOR REC-1 BENEFICIAL USES OF BALLONA CREEK AND WATER QUALITY OBJECTIVE CHANGE

MAY 27, 2003

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION,
FINALIZED
JANUARY 2005
BY
STATE WATER RESOURCES CONTROL BOARD

LOS ANGELES REGION

TABLE OF CONTENTS

LIST OF TABLES 3

LIST OF FIGURES 3

1. INTRODUCTION 4

2. BACKGROUND 6

2.1 PHYSICAL DESCRIPTION OF BALLONA CREEK 6

2.2 DESIGNATED BENEFICIAL USES IN BASIN PLAN 6

3. POLICY REVIEW 10

3.1 DESIGNATION OF BENEFICIAL USES 10

3.2 REMOVAL OF DESIGNATED USES: 40 CFR § 131.10 (G) 11

3.3 USE ATTAINABILITY ANALYSES 12

4. BENEFICIAL USE ASSESSMENT 14

4.1 METHODS 14

4.2 RESULTS 15

4.2.1 Physical Conditions within the Creek *15*

4.2.2 Existing Recreational Uses of the Creek *26*

4.2.3 Current Recreational Uses of the Estuary *26*

4.3 WATER QUALITY POTENTIAL FOR BALLONA CREEK 319

4.4 SUMMARY 319

5. ANALYSIS OF ALTERNATIVES 32

5.1 ALTERNATIVES FOR MODIFYING RECREATIONAL USE DESIGNATION 32

5.2 ADDRESSING POTENTIAL CONCERNS 36

5.3 RECOMMENDED ALTERNATIVE 37

5.4 FUTURE CONSIDERATIONS 40

REFERENCES 41

LIST OF TABLES

Table 1 .....Beneficial Uses Of Ballona Creek And Estuary 8
Table 2: .....Current And Proposed Water Quality Objectives For Ballona Creek 34

LIST OF FIGURES

Figure 1: .....Ballona Creek And Watershed 7
Figure 2: .....Water Levels Along Ballona Creek 16
Figure 3: .....Average Daily Water Levels (1996/97- 2000/01) In Ballona Creek At ..... Sawtelle Boulevard 17
Figure 4: .....Average Daily Ballona Creek Flow For 1996/97 To 2000/01 20
Figure 5a: ...Vertical Channel Walls Upstream In Ballona Creek At Cochran Avenue ..... In The City Of Los Angeles 21
Figure 5b: ....Ballona Creek At Fairfax Avenue In The City Of Los Angeles 21
Figure 6a: ...."Ballona Creek To Estuary" At Duquesne Avenue In Culver City ..... - A Gate Provides Access To The Path 22
Figure 6b: ...."Ballona Creek To Estuary" At Duquesne Avenue In Culver City ..... Fence Is Meant To Keep People Out Of The Creek 22
Figure7a: ....."Ballona Creek To Estuary" At Overland Avenue – Break In Fencing Makes ..... Direct Access To Ballona Creek Possible 23
Figure 7b: ...People Access The Creek Despite The Fencing 23
Figure 8a: ....At National Boulevard In Culver City, The Bike Path Can Be Accessed ..... Directly From Syd Kronethal Park 24
Figure 8b: ....The Bike Path And The Creek Can Be Accessed From The Rear Of The Julian Dixon Library In Culver City 24
Figure 9: .....Water Levels In Ballona Creek At Sawtelle Boulevard – Before, During ..... And After Rain Events Totaling 0.5-, 2-, And 3-Inches 25
Figure 10a: ..Rowing Practice in the Ballona Creek Estuary 28
Figure 10b: ..Fishing in the Ballona Creek Estuary – upstream of Pacific Bridge 28
Figure 11a: ..1998 assessment of fecal coliform in Ballona Creek 30
Figure 11b: ..1998 assessment of fecal coliform in Ballona Creek Estuary 30

1. INTRODUCTION

Section 101(a)(2) of the Clean Water Act (CWA) states that "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983". This formed a broad basis for the beneficial use designations for surface waters of the State. In addition to this consideration, a comprehensive review of existing data and solicited input from stakeholders was conducted in the early 1970s to determine the existing and potential beneficial uses for the waters of Los Angeles River Basin. These were the bases for the beneficial uses as designated as in the 1975 Water Quality Control Plan – Los Angeles Region (Basin Plan). Data and reports for this assessment were obtained from California Departments of Health, Fish and Game, Conservation, and Water Resources, as well as the Southern California Association of Governments, County of Los Angeles, Los Angeles County Flood Control District, and various regional and local water agencies. Comments received from public agencies, public utilities, industrial organizations, water companies and private citizens, were also considered (CRWQCB, 1975). Beneficial uses identified included existing and potential water contact recreation (REC-1) for all waters in the region.

The 1994 Basin Plan preserved these beneficial uses. Recently, however, the validity of assigning REC-1 uses to engineered storm channels where access is prohibited or restricted for public safety reasons has been questioned by public agencies such as the Los Angeles County Department of Public Works (LACDPW). LACDPW has also expressed concerns regarding the potential for such beneficial use designations to encourage and protect recreational activities in areas that are unsafe.

Engineered storm channels are constructed 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. This modification creates "swiftwater" conditions during and

immediately following rain events. The vertical walls and/or steep-sided slopes of these channels, in conjunction with restrictive fencing, usually limit, or at least minimize, direct access to channelized creeks and streams for the purpose of recreational use. Ballona Creek, which is situated in the Santa Monica Bay Watershed in Los Angeles County, is one of such engineered channels. The U.S. Army Corps of Engineers converted it from a natural creek to a concrete-lined flood protection channel in the 1930s. Since then public access has been restricted and recreational use limited. Despite this, in 1975 the creek, upstream of the estuary, was designated for secondary contact (REC-2) and potential primary contact (REC-1) uses. The Los Angeles Regional Water Quality Control Board (Regional Board) is assessing whether this potential REC-1 use can be attained in this portion of Ballona Creek; and will consider removing or amending this designation based on the results of this use attainability analysis (UAA). This analysis is designed to address the Clean Water Act swimmable goal included in the REC-1 designation. Such a determination is timely, since a bacteria Total Maximum Daily Load (TMDL) is currently in development for Ballona Creek.

2. BACKGROUND

2.1 Physical Description of Ballona Creek

Ballona Creek flows as an open channel for just under 10 miles from Los Angeles (South of Hancock Park) through Culver City, reaching the Pacific Ocean at Playa del Rey. Except for the estuarine section of the creek, which is composed of grouted rip-rap side slopes and an earth bottom, Ballona Creek is entirely lined in concrete and extends into a complex underground network of storm drains which reaches north to Beverly Hills and West Hollywood. Tributaries of the creek include Centinela Creek, Sepulveda Canyon Channel, Benedict Canyon Channel, and numerous other storm drains (Figure 1). All of these tributaries are concrete lined channels that lead to covered culverts upstream.

The Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan) defines three sections of the creek based on hydrologic units. The section referred to as "Ballona Creek" (Reach 1) is a 2-mile stretch from Cochran Avenue to National Boulevard. "Ballona Creek to Estuary" (Reach 2) is the longest segment of the creek (approximately 4 miles) continuing on from National Boulevard and ending at Centinela Avenue where the estuary begins. "Ballona Creek Estuary" continues to the Pacific Ocean for 3.5 miles and its lower portion runs parallel to the main channel of Marina del Rey (Figure 1).

2.2 Designated Beneficial Uses in Basin Plan

The existing and potential uses of Ballona Creek and Estuary are listed in Table 1. The Basin Plan defines recreational beneficial uses as follows:

> *REC-1 Water Contact Recreation:* "Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to swimming, wading, water skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs."

Figure 1: Ballona Creek and Watershed

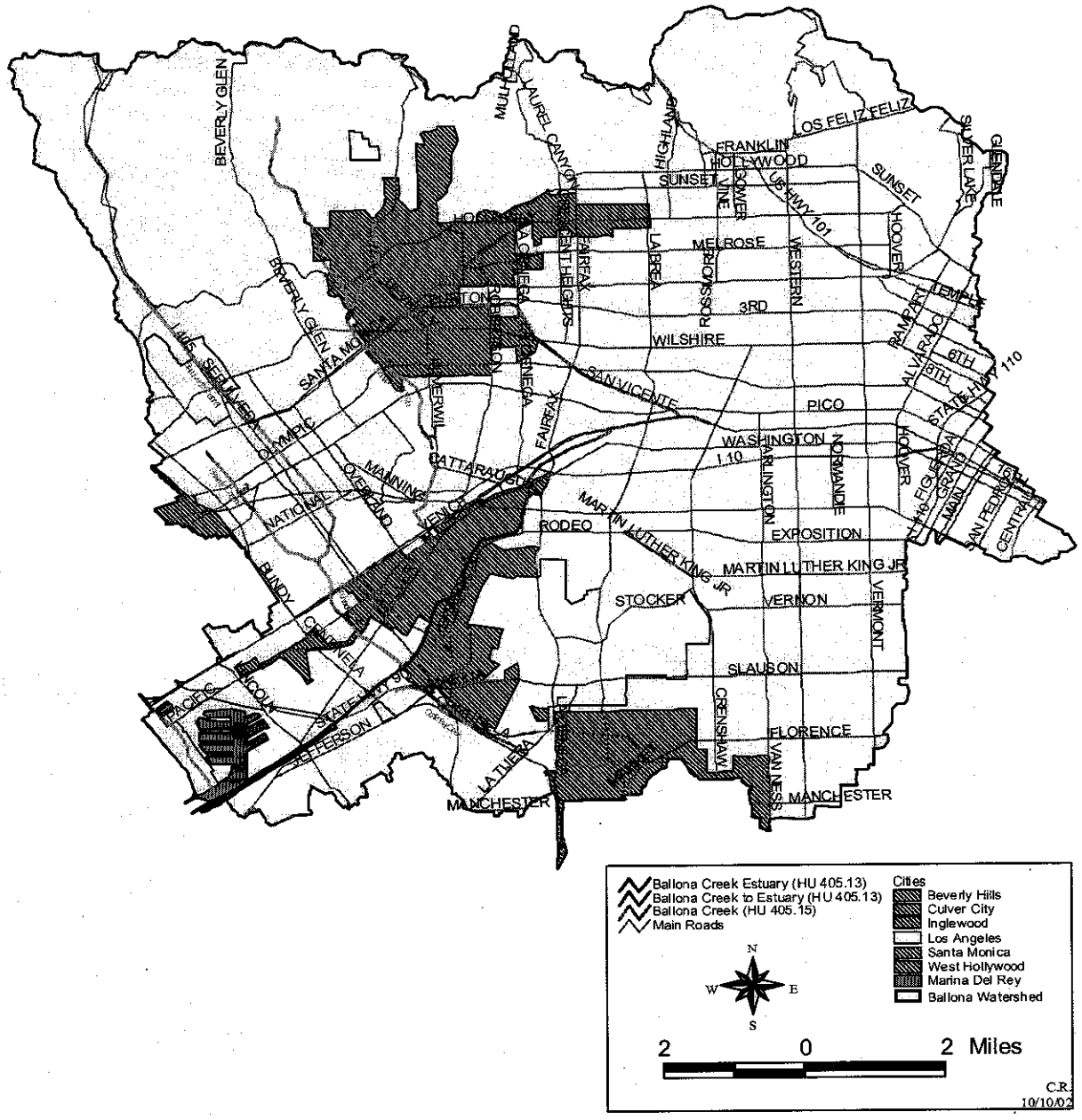


Table 1. Beneficial Uses of Ballona Creek and Estuary

BALLONA CREEK WATERSHED	HYDRO UNIT #	MUN	NAV	REC1	REC2	COMM	WARM	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL
Ballona Creek Estuary	405.13		E	E	E	E		E	E	E	Ee	Ef	Ef	E
Ballona Creek to Estuary	405.13	P*		Ps	E		P			P				
Ballona Creek	405.15	P*		Ps	E		P			E				

Beneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.

E: Existing beneficial use
P: Potential beneficial use
s: Access prohibited by Los Angeles County DPW
e: One or more rare species utilize all oceans, bays, estuaries, and wetlands for foraging and/or nesting.
f: Aquatic organisms utilize all bays, estuaries, lagoons, and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas that are heavily influenced by freshwater inputs.

* Asterixed MUN designations were designated under SB 88-63 and RB 89-03. However, conditional designations are not recognized under federal law and are not subject to water quality objectives set to protect the MUN use until further study is undertaken. (See Letter from Alexis Strauss [U.S. EPA] to Celeste Cantú [State Board], Feb. 15, 2002.)

This is an existing beneficial use of the estuary and a potential use for the "Creek" and "Creek to Estuary". The swimmable component of the potential REC-1 use upstream of the estuary is the focus of this analysis. The fishable goals of this designation are not addressed.

REC-2 Non-contact Water Recreation: "Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to picnicking, sun-bathing, hiking, beach-combing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities". This is an existing beneficial use for all three sections of the creek. Existing beneficial uses refer to those "those beneficial uses that have been attained for a waterbody on, or after, November 28, 1975 (CRWQCB, 1994).

Potential use designations are based on a number of factors including

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 (CRWQCB, 1994).

This staff report is made up of three main sections:

(1) a review of relevant regulations and policies governing UAAs and requirements for REC-1 de-designation,

(2) an assessment of the existing and potential recreational uses of the creek, and

(3) a presentation of alternative beneficial-use designations and their implications.

3. POLICY REVIEW

3.1 Designation of Beneficial Uses

According to 40 CFR§ 131.3 (f), designated uses are those uses specified in water quality standards for each water body or segment whether or not they are being attained. As previously mentioned, Section 101(a)(2) of the Clean Water Act (CWA) says, "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983".

40 CFR §131.10 directs States on the designation of uses:
(a) Each State must specify appropriate water uses to be achieved and protected. The classification of the waters of the State must take into consideration the use and value of water for public water supplies, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. In no case shall a State adopt waste transport or waste assimilation as a designated use for any waters of the United States.

(b) In designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of downstream waters and shall provide for the attainment and maintenance of the water quality standards of downstream waters.

(c) States may adopt sub-categories of a use and set the appropriate criteria to reflect varying needs of such sub-categories of uses, for instance, to differentiate between cold water and warm water fisheries.

(d) At a minimum, uses are deemed attainable if they can be achieved by the imposition of effluent limits required under sections 301(b) and 306 of the Act and cost-effective and reasonable best management practices for nonpoint source pollution.

3.2 Removal of Designated Uses: 40 CFR § 131.10 (g)

States may remove a designated use which is not an existing use, as defined in § 131.3, or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible because:

1. Naturally occurring pollutant concentrations prevent the attainment of the use; or
2. Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met: or
3. Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
4. Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or
5. Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses or
6. Controls more stringent than those required by sections 301(b) [Effluent Limitations] and 306 [National Standards of Performance] of the Act would result in substantial and widespread economic and social impact.

Restrictions on Removal of Use: 40 CFR § 131.10

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.

3.3 Use Attainability Analyses

40 CFR § 131.3 (g) defines a Use Attainability Analysis (UAA) as a structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological, and economic factors as described in § 131.10(g).

Under section 40 CFR § 131.10 (j) of the Water Quality Standards Regulation, States are required to conduct a UAA whenever the State wishes to remove a designated use that is specified in section 101(a)(2) of the Act or adopt subcategories of uses specified in section 101(a)(2) that require less stringent criteria.

U .S. EPA (2002) provides guidance on conducting UAAs for Recreational Use and provides the following factors that may be addressed:

(i) Physical analyses considering the actual use (as of November 28, 1975), public access to the waterbody, facilities promoting the use of recreation, proximity to residential areas, safety considerations, and substrate, depth, width, etc. of a waterbody;

(ii) Chemical analyses of existing water quality;

(iii) Potential for water quality improvements including an assessment of nutrients and bacteriological contaminants; and

(iv) Economic affordability analyses.

On the subject of physical analyses, EPA has previously stated that, "Physical factors, which are important in determining attainability of aquatic life uses, may not be used as the basis for removing or not designating a recreational use consistent with the CWA section 101(a)(2) goal. This precludes States from using factor 2 (low flows) or factor 5 (physical factors in general) as the sole basis for determining attainability of recreational uses. The reason for this preclusion is that States and U.S. EPA have an obligation to do

as much as possible to protect the health of the public. In certain instances, people will use whatever water bodies are available for recreation, regardless of the physical conditions (U.S. EPA, 1994).

More recently, U.S. EPA considered whether the regulation or Agency guidance should be amended to allow consideration of physical factors, alone, as the basis for removing, or not designating primary contact recreational uses (U..SEPA, 1998).

U.S. EPA's suggested approach to the recreational use issue is for States to look at a suite of factors such as whether the water body is actually being used for primary contact recreation, existing water quality, water quality potential, access, recreational facilities, location, proximity to residential areas, safety considerations, and physical conditions of the waterbody in making any use attainability decision (U.S. EPA, 1994).

In October 2002, the California State Water Resources Control Board (SWRCB) reviewed its decision concerning the City of Vacavilles' (Vacaville) dispute of the Central Valley Regional Boards' (CVRB) application of REC-1 and other water quality objectives in crafting the 2001 permit for the Easterly Wastewater Treatment Plant discharge to Old Alamo Creek. The CVRB had applied REC-1 and other uses to the creek via the "Tributary Rule." Vacaville contended the CVRBs' approach to designating beneficial uses as well as the existence of specific uses (including REC-1) in Old Alamo Creek. Vacaville had conducted a receiving water survey in the Fall of 1997 and concluded that REC-1 was not an existing use of the creek. In contrast, CVRB determined that the public has access to the creek, which runs by homes and provides riparian habitat that could attract users. CVRB staff also found evidence of fishing in the creek, and received accounts of wading from nearby residents who were interviewed. Based on these findings, the SWRCB determined that REC-1 was an existing use of the waterbody (SWRCB, 2002).

4. Beneficial Use Assessment

Regional Board staff conducted a beneficial use assessment of Ballona Creek during the period of March to August 2002. Reconnaissance field visits were made in March, May, and July and a more rigorous survey was conducted throughout the month of August 2002. The assessment consisted of field visits, including visual observations, photo documentation, water level measurements, a recreational use survey of people encountered along the creek, analysis of flow and water-level data, and an e-mail survey of watershed stakeholders.

4.1 Methods

Data Collection and Analysis: Water level data were obtained from the Los Angeles County Department of Public Works (LACDPW). These data spanned a period of five storm years from 1996/97 to 2000/01 and were recorded in 15-minute intervals. Average daily values were derived from this data set. Flow data were obtained directly from the LACDPW website. Both water level and flow data were collected at the County's gage station (F 38C-R) in Ballona Creek at Sawtelle Boulevard, which is about one mile upstream from the estuary. In addition, on two occasions in August 2002, water level measurements were taken by Regional Board staff at seven different sites along the creek from its starting point to the beginning of the estuary. This was accomplished by taking in-stream measurements with a yardstick approximately every five feet along the channel width at each site.

Fieldwork: Regional Board staff went to the creek on seven occasions between March and August 2002. During this period photo documentation of the conditions within, and the activities in and around the creek was conducted. A recreational use survey questionnaire was developed to identify other uses that staff did not observe during the field visits. This questionnaire was distributed among users of the bike path adjacent to the creek during four site visits on August 2, 16, 23, and 29, 2002. A total of thirty-three questionnaires were returned to Board staff. Copies of the returned surveys are provided in Appendix A hereto. In addition, Regional Board staff interviewed staff from the

UCLA Marine Aquatic Center located between Ballona Creek and the main channel of Marina del Rey.

E-mail Survey: This survey involved sending e-mails to participants in the Ballona Creek Watershed Task Force (BCWTF) seeking information on known water-contact recreational activities in the creek upstream of the estuary. The Task Force is comprised of public agencies such as LACDPW and cities within the watershed, environmental groups such as Heal the Bay and the Santa Monica BayKeeper, local residents, and staff of the Regional Board, and the Santa Monica Bay Restoration Commission.

4.2 Results

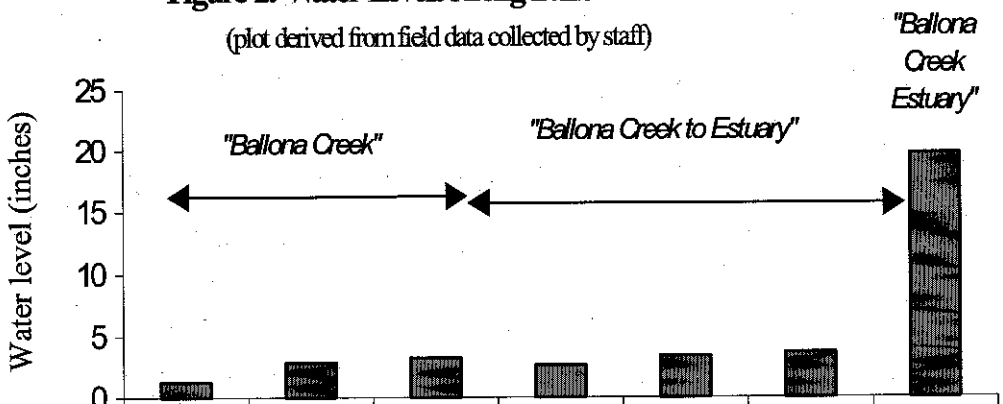
Results of the data collection and analysis, surveys, and field measurements are presented in the following section.

4.2.1 Physical Conditions within the Creek

Water levels: Figure 2 shows the profile of water levels in the creek as it makes its way downstream to the estuary. Ballona Creek at Cochran Avenue is the location where the creek emerges from the network of underground storm channels. The sites were chosen based on accessibility and are located approximately 1, 2, 3, 4 and 4.5 miles downstream. These values represent dry-weather conditions. Water levels along the creek are very low during this period – less than 4 inches throughout, until the estuary.

Figure 2: Water Levels Along Ballona Creek

(plot derived from field data collected by staff)



	Cochran	Fairfax	National	Duquesne	Overland	Sawtelle	Centinela
Water level (inches)	1.3	2.9	3.3	2.7	3.4	3.7	19.7

Locations Along Ballona Creek

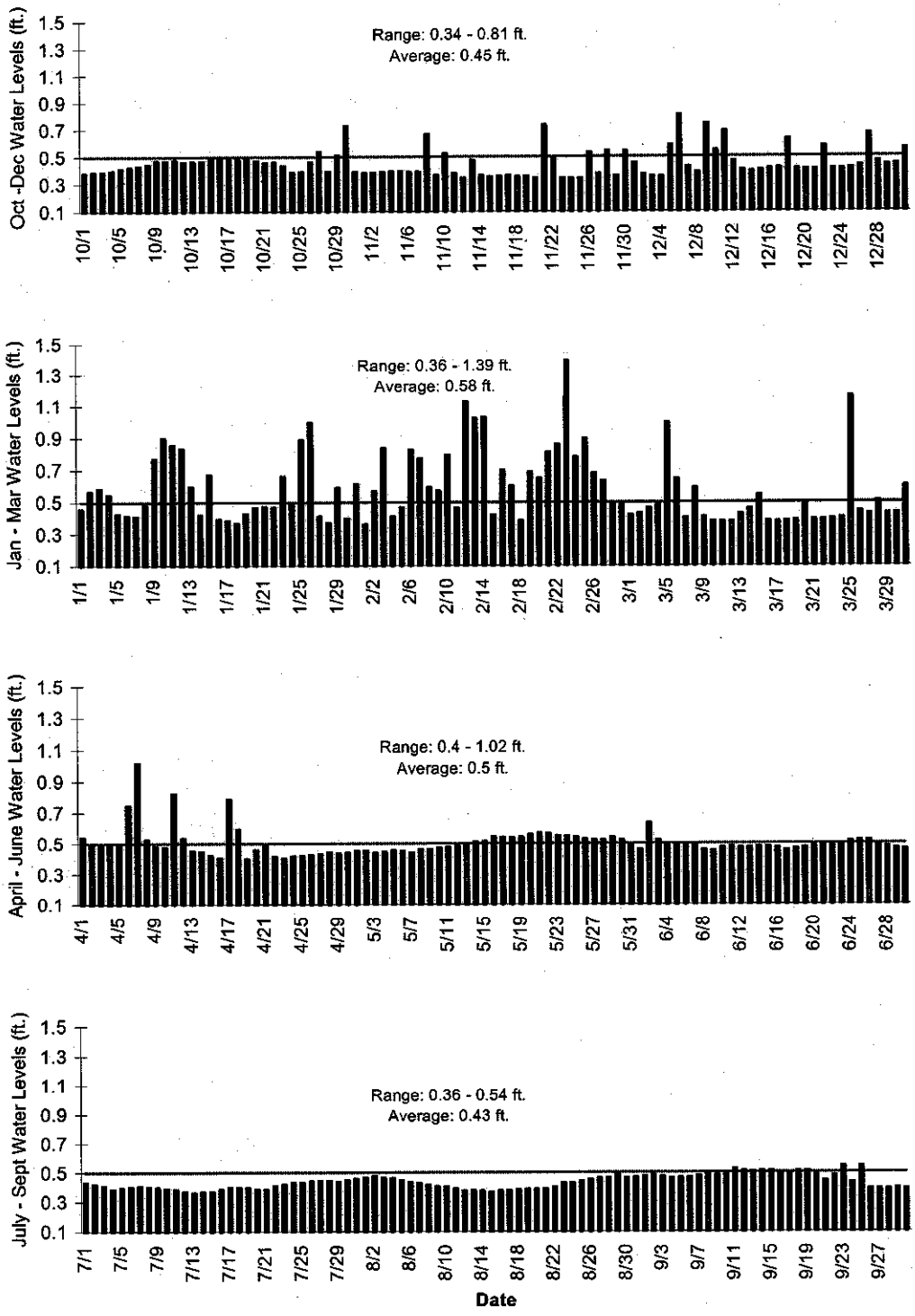
Figure 3 is a series of plots of average daily water levels the 1996/97 to 2000/01 storm year – presented by season. For most of the year it is below six inches (0.5ft). The peaks in water level occur during and soon after storm events.

Flow Volume: The low water levels in the creek are not indicative of the flow in the channel, which is significant even during dry weather. Dry weather flows are estimated at 14 cubic feet per second (cfs) (Ackerman and Schiff, 2001) and can be up to 36000 cfs - for a 100-year storm event (SMBRP, 1997). Figure 4 shows average daily flows in Ballona Creek for the period of 1996/97 to 2000/01. The peaks represent storm events when flows are magnified.

Accessibility:

"Ballona Creek" (Reach-1): Vertical concrete walls line the creek from the point where it emerges from the underground network of drains at Cochran Avenue, in the City of Los Angeles, to National Boulevard in Culver City (Figure 5a-b). This is the segment referred to as "Ballona Creek" in the Basin Plan. These walls, along with the chainlink fencing that runs the length of them (Figure 5a) limit direct public access to this segment

Figure 3: Average Daily Water Levels (1996/97- 2000/01) in Ballona Creek at Sawtelle Blvd. (source: LACDPW)



of the creek. Locked gates along the fencing restrict entry to these areas to the LACDPW and other authorized agencies.

"Ballona Creek to Estuary" (Reach 2): At National Boulevard the vertical walls transition to sloping walls that end in a box culvert at the base of the channel. From this point, a bike path runs adjacent to the creek and then the estuary until it meets the Pacific Ocean in Marina del Rey. Gates in the fencing (Figure 6a) provide access to the bike path and the path is separated from the creek itself by another fence (Figure 6b). At two locations along the bike path -Overland Avenue (Figure 7a), and Sepulveda Boulevard - the separating fence is discontinued and direct access to the creek is possible. People can also come into contact with the water by climbing through or over the separating fence (Figure 7b).

Proximity to Other Structures and Facilities: The creek flows in close proximity to residences, office buildings, parks and other facilities. The bike path can be accessed directly from Syd Kronenthal Park (Figure 8a), and the Culver Slauson Park – both located in Culver City. In addition, Lindberg Park, Culver City Park, and the Mar Vista Gardens are in close proximity to the creek. The Julian Dixon Library (Figure 8b) and the Culver City Middle school, at Overland Boulevard (located in Reach 2), provide access to the bike path through gates in the rear of their facilities. Direct access to the creek is possible from these two facilities since there is a break in the fencing which separates it from the bike path.

Safety Issues: The creek was channeled in order to quickly convey stormwater to the ocean. Therefore during storm events of one (1.0) inch or greater (for unsaturated ground), and one-half (0.5) inch or more (for saturated ground), high-flow high-velocity conditions make it unsafe to be in the immediate vicinity of the creek. This limit is based on the Los Angeles County Multi-Agency Swift Water Rescue Committees' determination of the potential for flooding, mud and debris flow, and water rescue incidents in the area (LACMSWRC, 1999). Prior to or at the start of storms totaling one (1.0) inch or more, LACDPW locks all access gates to the bike path to prevent its use by

the public (Burke, 2002). Figure 9 shows examples of the sudden changes in water levels experienced during storms of totaling one-half (0.5)-, two (2.0), and three (3.0) inches.

Figure 4: Average Daily Ballona Creek Flow for 1996/97 to 2000/01
(source: LADPW).

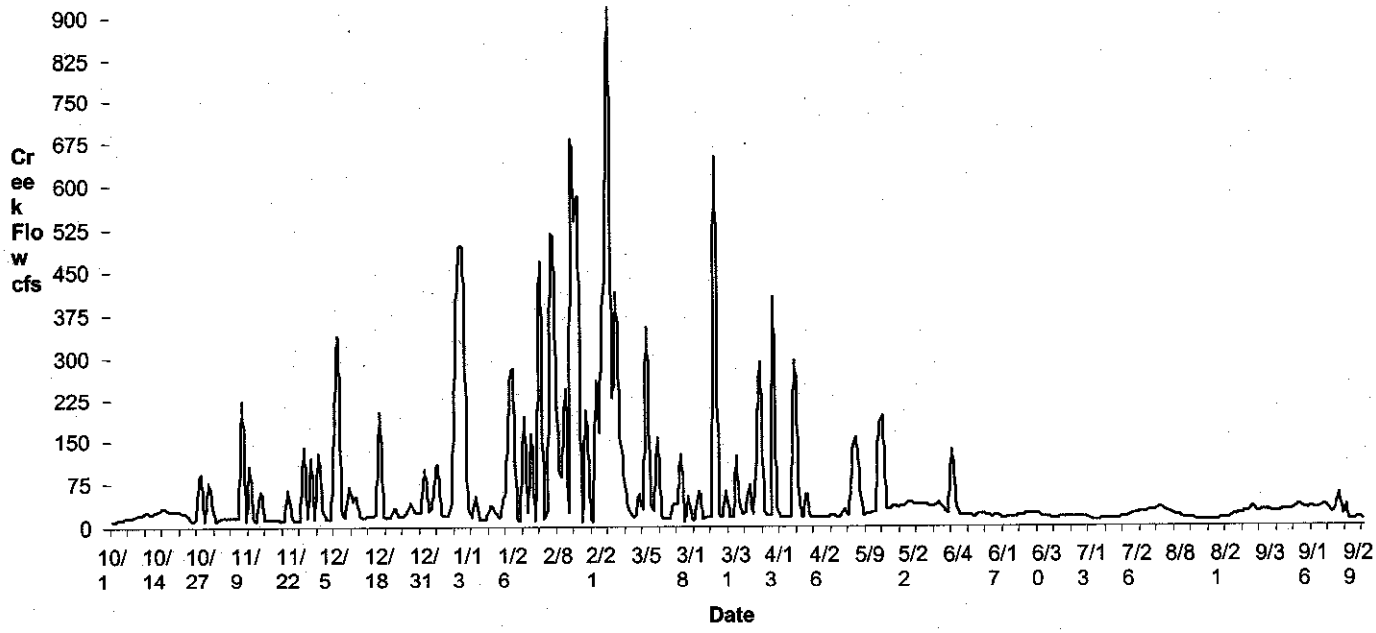


Figure 5a: Vertical channel walls upstream in Ballona Creek at Cochran Avenue in the City of Los Angeles. This is where the creek first daylights from the underground network of stormdrains.

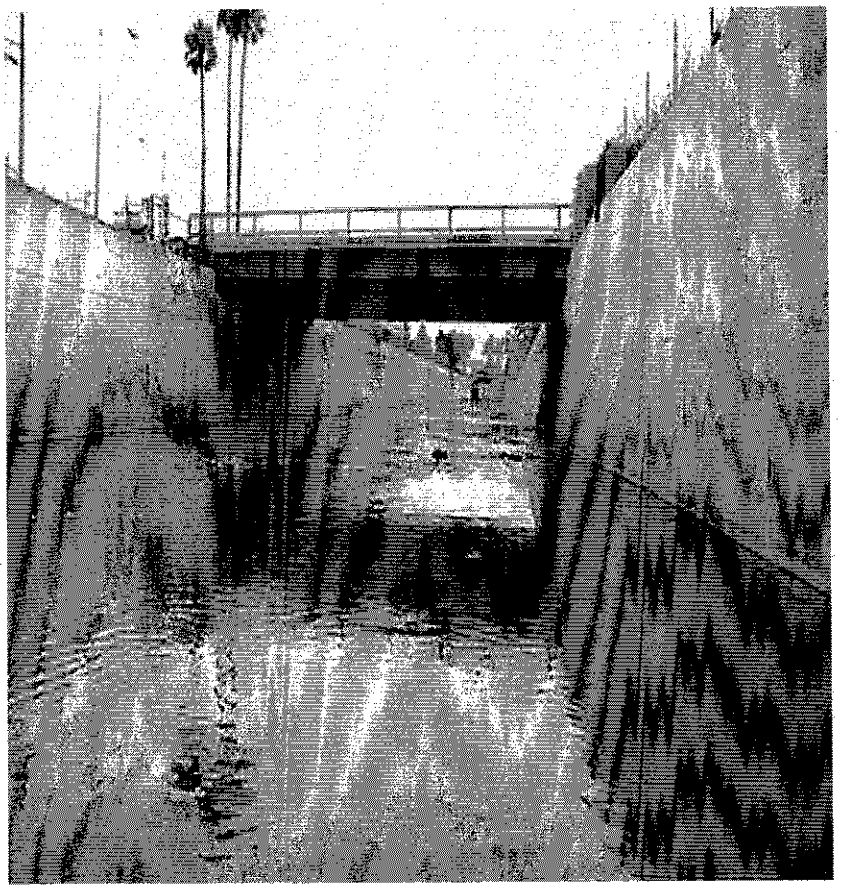


Figure 5b: Ballona Creek at Fairfax Avenue in the City of Los Angeles (1-mile downstream of Ballona Creek at Cochran Avenue). Vertical channel walls and fencing limit access.

Figure 6a: "Ballona Creek to Estuary" at Duquesne Avenue in Culver City – a gate provides access to the bike path. There are other access gates at bridge crossings along the path.

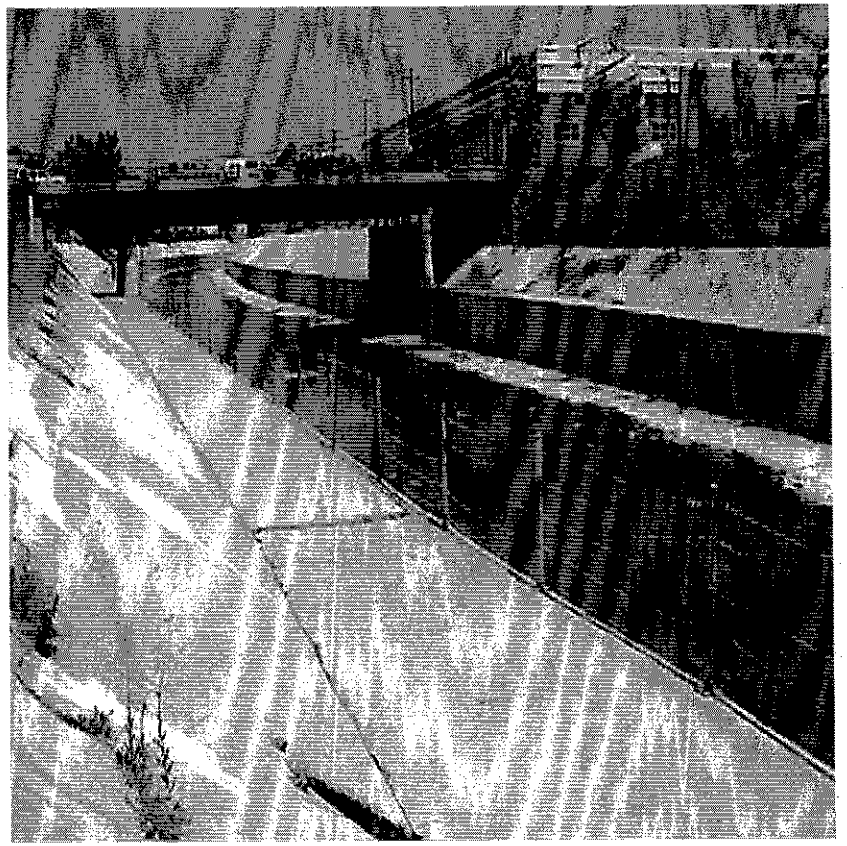


Figure 6b: "Ballona Creek to Estuary" at Duquesne Ave. Fence is meant to keep people out of the creek. Note that the channel walls have become sloped at the top and vertical at the bottom. This change occurs at the beginning of the bike path at National Blvd.

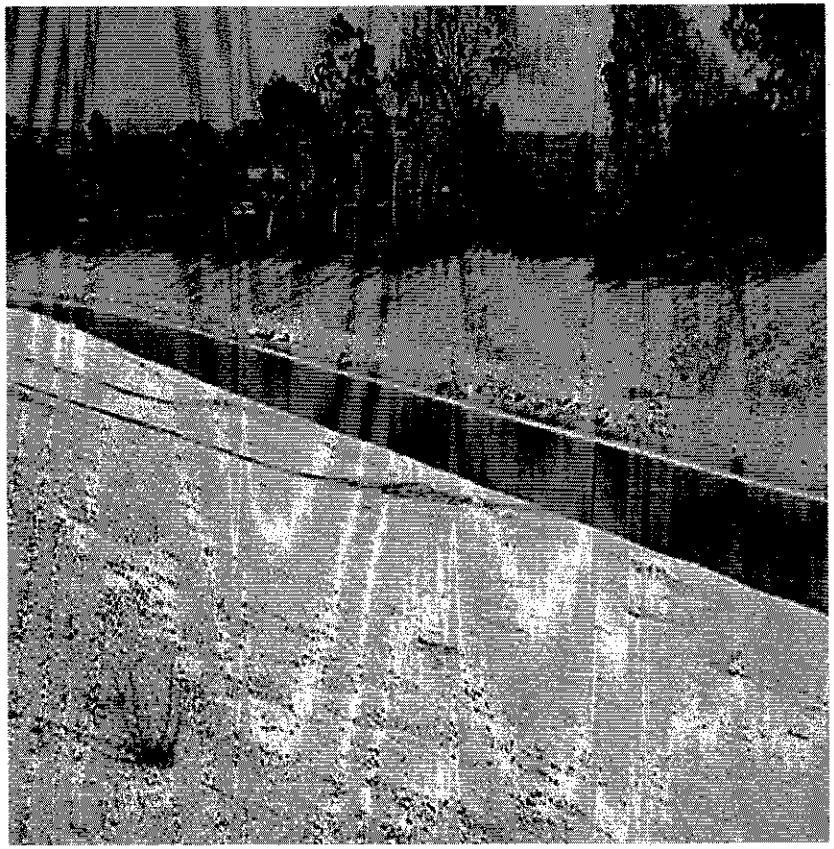


Figure 7a: "Ballona Creek to Estuary" at Overland Ave. - break in fencing makes direct access to Ballona Creek possible. Another break occurs at Sepulveda Blvd.

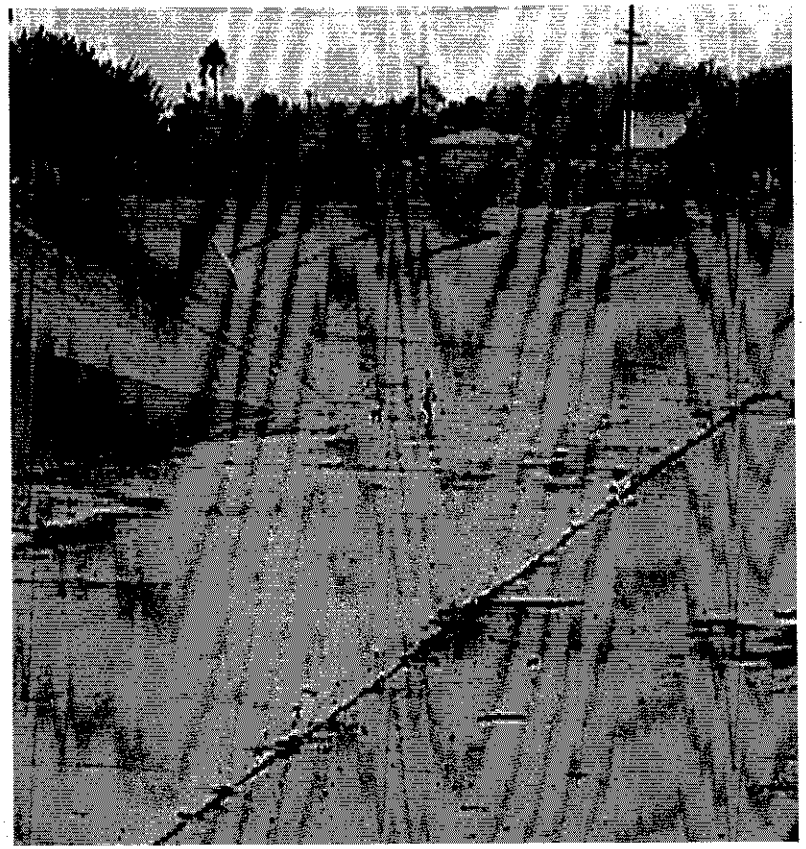


Figure 7b: People access the creek despite the fencing. At "Ballona Creek to Estuary" at Duquesne Ave., a woman walks a dog in the creek.

Figure 8a: "Ballona Creek to Estuary" - At National Boulevard in Culver City, the bike path can be accessed directly from Syd Kronenthal Park.

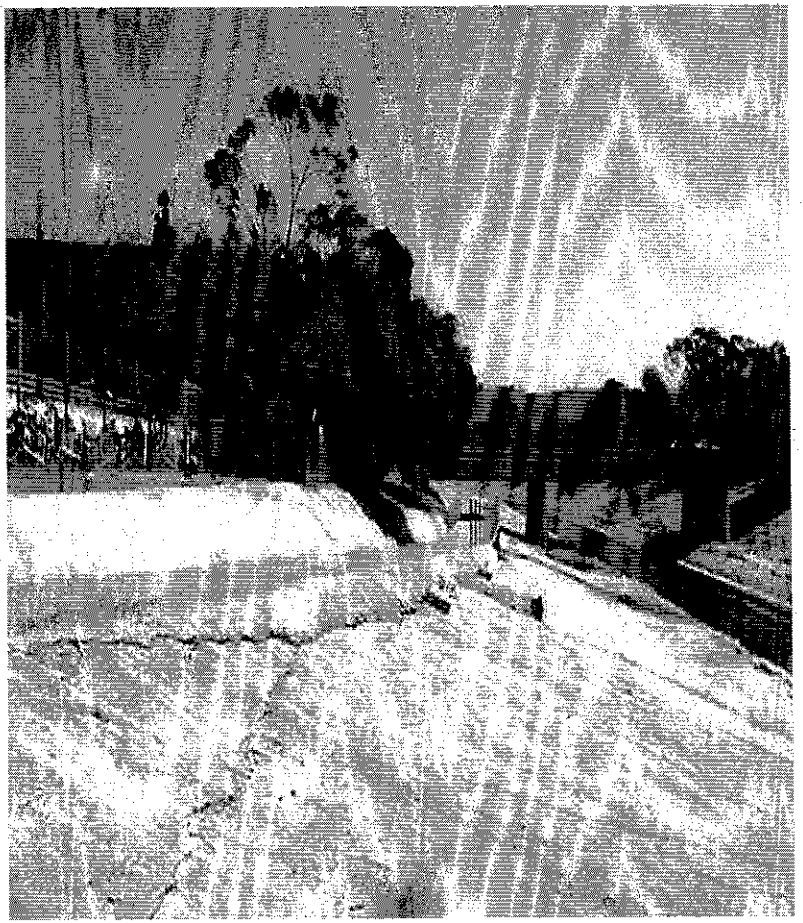
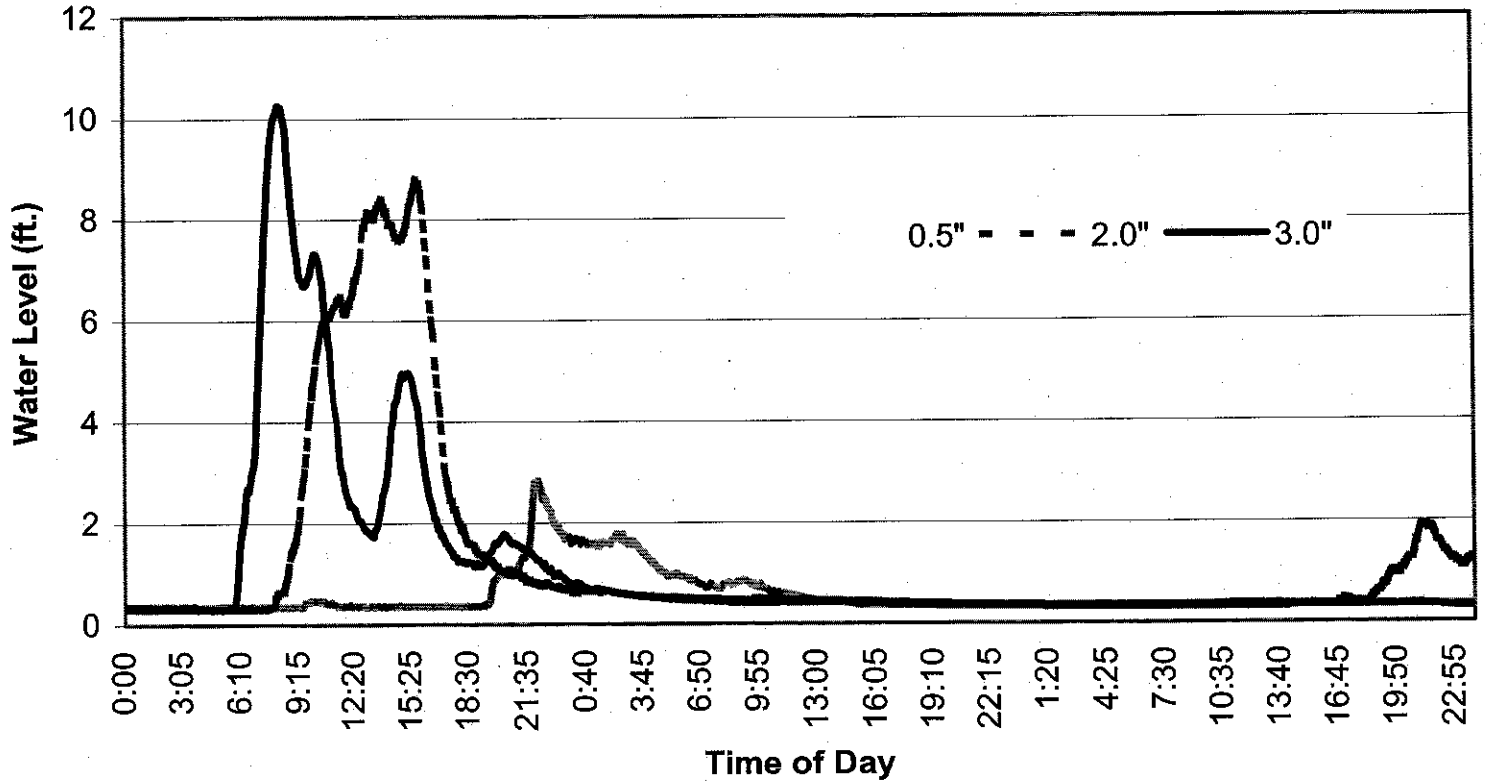


Figure 8b: "Ballona Creek to Estuary" - The bike path and the creek can be accessed from rear of the Julian Dixon Library in Culver City. Here the fencing is discontinued and water contact is possible. Culver City Middle School is adjacent to the library.

Figure 9: Water Levels in Ballona Creek at Sawtelle Boulevard - Before, During & After Rain Events Totaling 0.5-, 2-, and 3-inches.

(Plots derived using data obtained from LADPW (water levels) and SCCWRP (total rainfall)).



4.2.2 Existing Recreational Uses of the Creek

The bike path along the creek provides opportunities for recreation in the area. This path extends almost seven miles from Ballona Creek at National Boulevard in Culver City to the end of Ballona Creek Estuary in Marina del Rey. The bike path is connected to another path along Dockweiler Beach by the Pacific Bridge, which links Marina del Rey to Playa del Rey. Staff observed people biking, walking, jogging, roller-blading, riding scooters, and walking dogs. Also a number of teenagers, frequently observed along the path, informed staff that they used it as a short-cut to and from school. Responses to the questionnaire handed out to users of the bike path listed bird watching, and children playing on the sloped banks as observed activities; in addition to those observed by staff. This facility is mainly used by residents of the area for recreational purposes or as a route to school and is accessed primarily from gates provided by bridge crossings. A summary of the results of this survey is provided in the Appendix A hereto.

The only instance of water contact observed by staff was a woman walking a dog in the creek at Ballona Creek and Duquesne Avenue. However, water contact recreation by children east of Inglewood Boulevard, just upstream of the estuary, was an additional activity reported by the e-survey. Others were dog walking in the creek and at the waters edge, sailing model powerboats, water quality education and monitoring, and creek clean-ups.

4.2.3 Current Recreational Uses of the Estuary

The existing REC-1 use designation of Ballona Creek Estuary is well supported. The bike path that runs adjacent to the estuary supports the same recreational activities that occur along the creek. In addition to these activities, the estuary itself is used for rowing and kayaking. The University of California Los Angeles (UCLA) Marina Aquatic Center (MAC) conducts some of its activities within the estuary. The UCLA rowing program uses the creek approximately 60 to 70 days per year for practice (Figure 10a). Every April, the women's crew team hosts an inter-collegiate crew regatta, the "Miller Cup" on Ballona Creek. This event attracts collegiate teams from the entire West Coast. In June,

the local Masters Rowing Club hosts their "Regatta del Sol" which attracts mainly Southern Californian masters rowing teams.

The UCLA Marine Aquatic Center organizes a kayaking and bird watching program along Ballona Creek Estuary. This event takes place 10 –12 times a year on weekends, and groups of kayakers go upstream of the estuary as far as Centinela Creek. Fishing is another recreational activity that takes place in the estuary- from Centinela Boulevard all the way to the Pacific Ocean (Figure 10b).

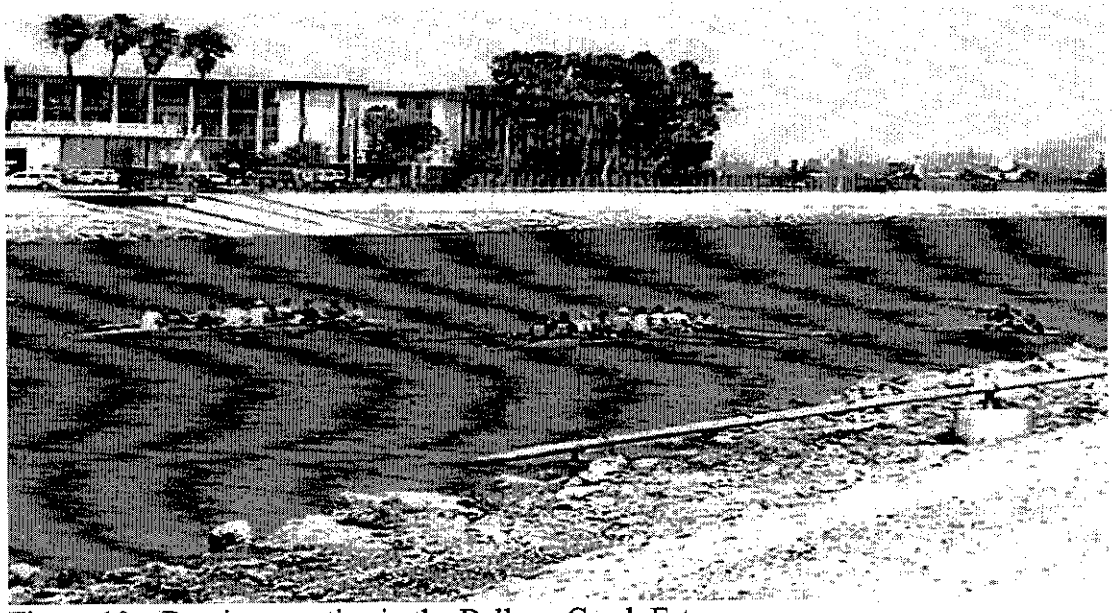


Figure 10a: Rowing practice in the Ballona Creek Estuary

Figure 10b: Fishing in the Ballona Creek Estuary –upstream of Pacific Bridge.

4.3 Water Quality Potential for Ballona Creek

Ballona Creek (Reaches 1 and 2) and Estuary are listed as impaired on the 1998 303(d) list due to exceedances of bacteria water quality objectives designed to protect the REC-1 beneficial use. Plots of the data that lead to this listing in both waterbodies are shown in Figure 11a-b. These figures show neither REC-1 nor REC-2 conditions being met in the creek or estuary. More recent data indicate that the creek and estuary are still not meeting REC-1 water quality standards with respect to coliform bacteria. Potential sources of these contaminants include illegal sewer connections, leaking sanitary sewer lines, and urban run-off containing waste from pets. Other pollutants of concern for which the creek and estuary are listed are trash, metals and organics. A trash TMDL has been adopted for the watershed and is in its implementation stage. The TMDLs for coliform bacteria and metals are slated for completion in 2003 and 2004 respectively.

None of the recreational users of the bike path along the creek, interviewed by staff, considered water contact in the creek as an option mainly because of the presence of storm drains (perceived poor water quality) and low water levels.

4.4 Summary

Results of the assessment suggest that physical conditions within "Ballona Creek' and "Ballona Creek to Estuary", are not capable of supporting REC-1 use for the following reasons:

(i) Water levels for most of the year – particularly in the dry-weather when recreational use is at its greatest, is insufficient to support activities that could reasonably be expected to result in anything other than incidental ingestion of water.

(ii) When sufficiently high levels do occur –during periods of storm events, the high flow velocity presents a life-threatening hazard for anyone entering the water.

(iii) Fencing and the configuration of the channel walls in certain sections, especially in "Ballona Creek" (Reach 1), restrict direct contact with the water in the creek.

These conditions can be classified under §131.10 (g) (2) low water levels, and (4) hydrologic modifications – both of which restrict attainment of REC-1 use.

Figure 11a: 1996 Assessment of Fecal Coliform in Ballona Creek

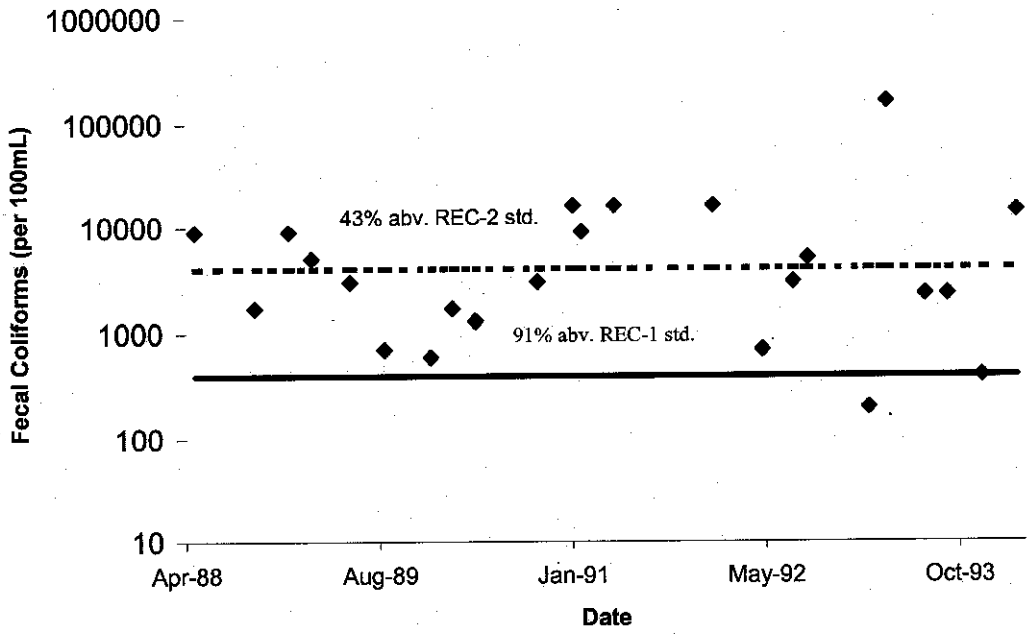
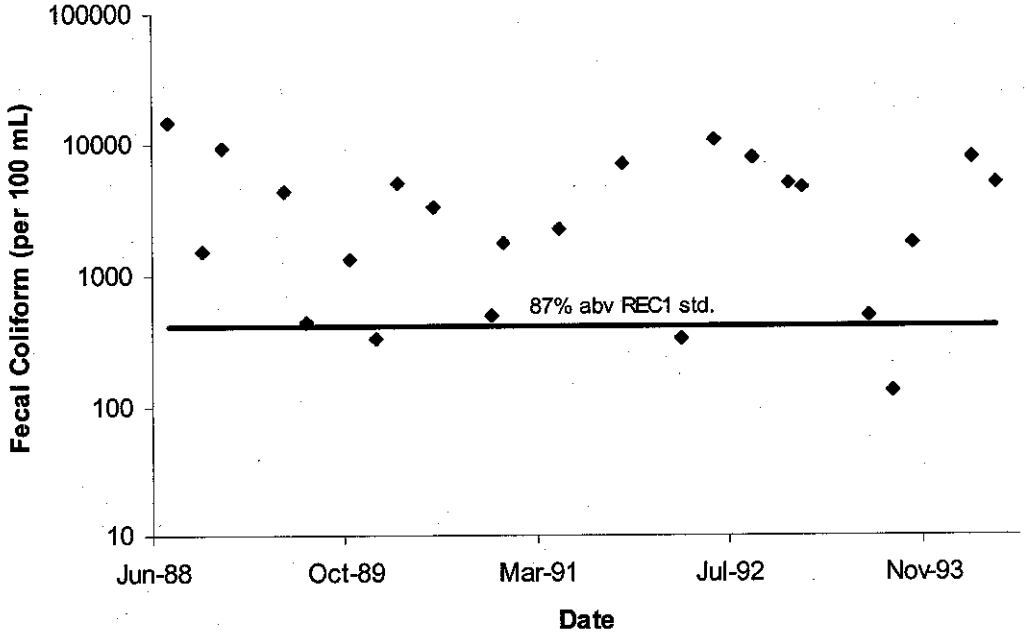


Figure11b: 1996 Assessment of Fecal Coliform in Ballona Creek Estuary



The existing and potential water quality of Ballona Creek are not controlling factors in determining the attainment of the REC-1 use since a change in water quality will have no impact on the hydrologic modifications and low water levels which preclude this use.

Access to the creek is more restricted in "Ballona Creek" than in "Ballona Creek to Estuary" due to the vertical walls and uninterrupted fencing, which is locked year round. Public access is restricted but not prohibited in "Ballona Creek to Estuary". The bike path, sloped channel walls, and breaks in the fencing provide limited access to this waterway. The public is therefore able to come into contact with the water in the "Ballona Creek to Estuary" (Reach 2). The potential for incidental water contact does not support a full REC-1 use, particularly since it does not involve swimming and/or a reasonable risk of ingestion. Arguably, such contact is provided for under the REC-2 bacteriological water quality objectives which were developed with the presumption that some accidental contact with water may occur. Based on staff's visual observations of activities taking place in the vicinity of the Creek and the results of the e-survey, the creek does support REC-2 activities, and limited REC-1 use. In the event that limited water contact recreation occurs in a waterbody that lacks suitable water quality and physical characteristics to support a recreational swimming use now or in the future, U.S. EPA suggests that primary contact recreation may not be an existing use. (U.S. EPA, 1998). In the case of Ballona Creek, the Board may consider modifying the REC-1 use designation to reflect the actual and potential use.

5. ANALYSIS OF ALTERNATIVES

It is clear that Ballona Creek, in its present configuration, has limited potential to support REC-1 activities associated with the swimmable goal as expressed in the Federal Clean Water Act section 101(a)(2), and regulated under the REC-1 use in the Basin Plan - now or in the foreseeable future. This section presents alternative actions that could be taken to modify the recreational beneficial use designation of the creek. In consideration that REC-2 standards would still apply to all reaches, the following alternatives considered are protective of human health in Ballona Creek. Downstream REC-1 uses shall be protected using existing bacteria objectives for water contact recreation. Furthermore, because downstream REC-1 uses are currently listed as impaired for bacteria, a TMDL will establish allocations to protect downstream REC-1 beneficial uses. In addition, pros and cons of each alternative are addressed.

5.1 Alternatives for Modifying Recreational Use Designation

Alternative A: De-designation of potential REC-1 in "Ballona Creek" as it pertains to activities associated with the swimmable goal as expressed in the Federal Clean Water Act section 101(a)(2), and maintain potential REC-1 in "Ballona Creek to Estuary".

The uppermost section of the creek is the two-mile segment referred to as "Ballona Creek" in the Basin Plan. As previously mentioned, access is restricted in this portion of the creek by the vertical channel walls and locked fencing. Physical conditions limit the use of this segment for body contact recreational activity. Downstream of this segment is "Ballona Creek to Estuary" where limited access is provided by a bike path and breaks in fencing between this path and the creek water. This alternative will remove the potential REC-1 designation, from the uppermost two-mile segment, as it pertains to recreational activities associated with the swimmable goal as expressed in the Federal Clean Water Act section 101(a)(2) and the associated bacteriological objectives set to protect those activities. However, water quality objectives set to protect other REC1 uses associated with the fishable goal as expressed in the Federal Clean Water Act section 101(a)(2) shall remain in effect in this reach. The potential REC-1 designation will still apply to the "Ballona Creek to Estuary" segment of the creek. Alternative A is protective of human

health since the upper reach is largely inaccessible to the public. This option may lend some relief to responsible parties implementing TMDLs since REC-1 bacteria water quality standards will not apply directly to this segment of the creek. However, REC-2 standards will continue to apply, and more stringent effluent limits, in the municipal storm water permit (MS4), may be applied to the extent necessary to protect the beneficial uses of downstream reaches.

Alternative B:

De-designation of entire creek upstream of the estuary for potential REC-1 use as it pertains to activities associated with the swimmable goal as expressed in the Federal Clean Water Act section 101(a)(2).

This alternative entails the complete removal of the potential REC-1use designation for "Ballona Creek" and "Ballona Creek to Estuary" as it pertains to recreational activities associated with the swimmable goal as expressed in the Federal Clean Water Act section 101(a)(2), and the associated bacteriological objectives set to protect those activities. However, water quality objectives set to protect other REC1 uses associated with the fishable goal as expressed in the Federal Clean Water Act section 101(a)(2) shall remain in effect in this reach. This approach may be justified by the limited opportunities for ingestion due to shallow water depth (see Figure 3) - even when direct contact is made with the water. REC-2 bacteriological standards would still apply (see Table 2). Such an alternative will address the designation of this beneficial use in both reaches upstream of the estuary, while still being protective of human health -since any ingestion of water would be incidental and is expected to occur infrequently – if at all. REC-1 bacteriological standards will not apply in this waterbody until it reaches the estuary. The relaxation of applicable bacteria water quality objectives in these reaches may provide some relief to responsible parties for achieving and maintaining water quality standards in the creek and estuary.

Alternative C:

De-designation of "Ballona Creek" for potential REC-1 use as it pertains to activities associated with the swimmable goal as expressed in the Federal Clean Water Act section 101(a)(2), and subdividing REC-1 in "Ballona Creek to Estuary."

This alternative would remove the potential REC-1 designation of the "Ballona Creek" segment as it pertains to recreational activities associated with the swimmable goal as expressed in the Federal Clean Water Act section 101(a)(2), and the associated bacteriological objectives set to protect those activities. However, water quality objectives set to protect other REC1 uses associated with the fishable goal as expressed in the Federal Clean Water Act section 101(a)(2) shall remain in effect. Alternative C will also modify the potential REC-1 designation in "Ballona Creek to Estuary" to account for incidental water contact in the creek. Specifically, the segment "Ballona Creek to Estuary" would be designated as supporting an existing limited REC-1 use. This sub-category of REC-1 will be termed Limited REC-1 (LREC-1) and defined as "uses of water for recreational activities involving body contact with water where full REC-1 use is limited by physical conditions such as very shallow water depth and restricted access; and as a result, ingestion of water is incidental and infrequent." This LREC-1 will provide a lower level of protection than the current REC-1 designation based on frequency of use. This approach is consistent with U.S. EPA guidance which suggests allowing higher bacteria limits with decreasing frequency of use in a waterbody (U.S. EPA, 1986). In this guidance document, REC-1 use is sub-divided according to the following qualitative use intensities (i) designated beach area (high frequency), (ii) moderate use, (iii) lightly used, and (iv) infrequently used; less intensively used areas are allowed less restrictive single sample limits for indicator bacteria densities.

The incidental contact occurring in Reach 2 of Ballona Creek would be classified as "infrequently used" and the applicable bacteriological standards are shown in Table 2.

Table 2: Current and Proposed Bacteria Water Quality Objectives for Ballona Creek (all units are in MPN/ 100ml).

Limits	REC-1	Limited REC-1*	REC-2
Geometric Mean			
E. coli	126	126	n.a
Fecal coliform	200	200	2000
Single Sample			
E. coli	235	576	n.a
Fecal coliform	400	n.a*	4000

* Proposed sub-category of REC-1
n.a. Not applicable
n.a* EPA did not recommend limited use criteria for fecal coliform.

LREC-1 geometric mean limits for E. coli and fecal coliform are the same as the REC-1 water quality objectives. However, the LREC-1 single sample limit for E. coli is higher than the REC-1 limit. This is based on EPA's determination of the most appropriate single sample maximum density for waterbodies infrequently used for full-body contact recreation (see Table 4 in U.S. EPA's "Ambient Water Quality Criteria for Bacteria – 1986". Report No. EPA 330/5-84-002, January 1986). A copy of this table is provided in Appendix B hereto.

While these standards are less stringent than the current REC-1 standards, they are more protective than the REC-2 standards. This alternative is justifiable since water levels in these segments are insufficient to support activities with a reasonable probability of water ingestion. It will most accurately protect actual and reasonably foreseeable uses in the creek. Relief to responsible parties for achieving water quality standards will be more limited than that provided in Alternative B.

Alternative D:

No Action - maintain potential REC-1 designation.

For this alternative the potential REC-1 designation will remain in place for the entire creek. Human health concerns will be fully addressed, however the designation will not reflect the actual level of use in the reaches upstream of the estuary, and may be considered to be overly protective.

5.2 Addressing Potential Concerns

It is likely that there may be concern by interested parties on the potential impacts of de-designation of REC-1 for Ballona Creek. The following section presents and discusses possible concerns that may arise.

Downstream uses may be impacted

40 CFR, Part 131.10 (b) states that "in designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of downstream waters and shall provide for the attainment and maintenance of the water quality standards of downstream waters. The Basin Plan is also clear that upstream water quality must be protective of downstream uses. Ballona Creek flows into Ballona Creek Estuary, which in turn flows into the Santa Monica Bay (SMB). The creek, estuary, and 44 Santa Monica Bay Beaches are all currently impaired for bacteria. Dockweiler Beach is the SMB Beach that is influenced by Ballona Creek Estuary. There may be concern that lowering water quality standards in Ballona Creek may impact Ballona Creek Estuary and Dockweiler Beach.

At present, a bacteria TMDL has been adopted for SMB Beaches and the TMDL for Ballona Creek and Estuary is expected to be completed in 2005. The SMB Beaches Bacteria TMDL sets limits on the number of exceedance days for the beach to which Ballona Creek drains. The Ballona Creek Bacteria TMDL will support this limit. In addition, the TMDL will require REC-1 water quality standards to be attained throughout the estuary. This will ensure that water quality in the estuary and at Dockweiler Beach are not compromised by changes in upstream designations.

The SMB beaches bacteria TMDL offered three potential implementation approaches for meeting the TMDL: 1) an integrated water resources strategy; 2) a targeted upstream structural and non-structural control strategy; and 3) an interim diversion strategy (CRWQCB-LA, 2002). Modification of uses in the upstream use in Ballona Creek will not affect implementation of these strategies.

Higher allowable levels of bacteria may further impair the creek.

There may be concern that de-designating REC-1 could result in higher allowable concentrations of bacteria into Ballona Creek. The current bacteria levels in Ballona Creek and Estuary regularly exceed single standard objectives for REC-1 and LREC-1 uses. The bacteria TMDL will establish substantial reductions in allowable bacteria loading, regardless of this action. REC-2 and LREC-1 water quality objectives, for "Ballona Creek" and "Ballona Creek to Estuary" respectively, are deemed protective when considering the frequency of use and the potential for ingestion of water in these reaches of Ballona Creek.

This may set a precedent for de-designation of other low-water level, concrete-lined channels.

It is important to acknowledge that de-designating Ballona Creek for REC-1 is likely to result in a precedent for de-designating other similar concrete-lined channels. There is already a request for de-designation of REC-1 in Coyote Creek and the San Gabriel River. The purpose of conducting this UAA is to ensure that the designated REC-1 beneficial use of Ballona Creek reflects the existing and potential use. Similar opportunity should be afforded other engineered channels in the region, where appropriate. It is important to determine if these designated beneficial uses have existed on or after November 28, 1975, currently exist, or could exist in future. It is a reasonable expectation that water quality standards for a waterbody reflect the potential uses that it can support.

5.3 Recommended Alternative

Staff recommends Alternative C. It serves to fully address concerns that the assigned beneficial uses reflect existing and potential beneficial uses, and it protects public health in the event of incidental contact. This alternative recognizes that the creek is slightly more accessible in Reach 2 than Reach 1. However, based on surveys and site visits, staff concludes that water contact in Reach 2 is very infrequent and the potential for incidental water ingestion is minimal due to shallow water depths. The level of protection provided for Reach 2, under this alternative, is recommended by EPA for

infrequent use. The proposed amendment to the beneficial use and associated water quality objectives, only addresses the Clean Water Act swimmable goal included in the REC-1 designation.

In making this recommendation, staff has considered all factors set out in §13241 of the Porter-Cologne Water Quality Control Act:

(a) *Past, present, and probable future beneficial uses of water.*

Public desire exists to improve recreational opportunities and aesthetics along the bike path that runs adjacent to "Ballona Creek to Estuary." Currently, a "Ballona Creek & Trail Focused Special Study," being conducted by Culver City, is investigating measures to enhance the bike path and provide recreational, landscaping, environmental, and other improvements along the creek. The modifications are geared towards increasing public access to the bike path and creek, while ensuring that its flood control function is not compromised. This project and future ones will be limited by the necessity to preserve the current hydrologic function of the channel in order to prevent flood damage to the surrounding highly urbanized areas. Also, limited public access - particularly during storm weather - will always need to be maintained for public safety. The Regional Board recognizes that in all probability, current and future uses of the creek will always be constrained by these factors.

(b) *Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.*

Water quality standards are currently not being met, however the Ballona Creek and Estuary TMDL under development will address this.

(c) *Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.*

Stormwater and urban run-off are the sources of water to the creek and are discharged through numerous storm drains. These sources have been historically difficult to control. Currently diversion and treatment of major storm drains is the most commonly identified control option, and it is not clear what impact dry-weather diversion of storm drains will have on the estuary. The recommended

action may allow more flexibility in the design of the implementation plan for the bacteria TMDL.

(d) *Economic considerations.*

With regard to economic considerations, the recommended alternative is not expected to impose any additional cost on the LACDPW or the affected cities, and may reduce costs by lowering the bacterial water quality objectives in some reaches of Ballona Creek. The change in bacteria limits in these segments may result in fewer storm drains that require diversion, along with a corresponding decrease in the potential volume of water requiring treatment. This may result in a reduced cost for water quality improvement within the creek.

(e) *The need for developing housing within the region.*

Alternative C will have no significant impact on the need for developing housing within the region.

(f) *The need to develop and use recycled water.*

The need to develop and use recycled water will not be affected by the proposed modifications.

The recommended alternative is also consistent with the Antidegradation Policy, as it will not lower the water quality of the creek, relative to existing conditions. In assigning water quality objectives to the limited uses that exist, this alternative fulfills the requirement of protecting the level of water quality necessary to protect existing and anticipated beneficial uses.

In addition, staff has determined that this alternative is not limited by the Federal regulations set forth in 40 CFR § 131.10 (h) that restrict the removal of a use. States are prohibited from removing a use if:

(1) They are existing uses, as defined in 40 CFR § 131.3, unless a use requiring more stringent criteria is added:

The REC-1 use being revised for Reaches 1 and 2 of Ballona Creek are potential uses and, as such, are not subject to this restriction. Furthermore, the beneficial use survey conducted by staff confirmed that this use can not be attained.

(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:*

The water quality in the creek, though currently below REC-1 standards, has little bearing on whether REC-1 use in the upper reaches of Ballona Creek can be achieved. As previously stated, the hydrologic modification of the creek and the low water levels are the factors that preclude the attainment of REC-1 use. These hydrologic modifications serve a vital flood control function and are unlikely to be removed; and water levels in the creek have been historically low (except during and immediately following storm events). Improving the water quality in these reaches by implementing effluent limits and BMPs will have no effect on these conditions, therefore this restriction does not apply.

5.4 Future Considerations

Amending the potential REC-1 designated use of Ballona Creek, upstream of the estuary does not preclude re-designation of this use should conditions within the channel change in the future. For example, should any future improvements result in increased opportunities for water contact recreation within Reach 1 and/or Reach 2 of Ballona Creek, the REC-1 beneficial use could be restored. In the event of these changes, none of the recommended alternatives would preclude re-designating Ballona Creek as REC-1.

REFERENCES

1. Ackerman, D.; Schiff, K. "Modeling Arid, Urbanized Watersheds: Part I, Hydrologic Modeling". Southern California Coastal Water Research Project –Unpublished, 2001.

2. Burke Jerry, Staff of the Los Angeles County Flood Maintenance Division. Personal communication. March 19, 2003.

3. California Regional Water Quality Control Board (CRWQCB). Water Quality Control Plan Report – Los Angeles River Basin (4B). March 1975.

4. California Regional Water Quality Control Board (CRWQCB). Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. 1994.

5. California Regional Water Quality Control Board Los Angeles Region (CRWQCB-LA) Total Maximum Daily Load to Reduce Bacterial Indicator Densities during Dry Weather at Santa Monica Bay Beaches. January, 2002.

6. Los Angeles County Multi-Agency Swift Water Rescue Committee (LACMSWRC) Operational Standards & Guidelines. December 10, 1999.

7. Santa Monica Bay Restoration Project. Santa Monica Bay: State of the Watershed First Edition – June 16, 1997.

8. State Water Resources Control Board (SWRCB) "In the Matter of Review of Own Motion of Waste Discharge Requirements Order No. 5-01-044 for Vacaville's Easterly Wastewater Treatment Plant." Order No. WQ 2002-0015. October 2002.

9. United States Environmental Protection Agency (U.S. EPA) "Ambient Water Quality Criteria for Bacteria – 1986". Report No. EPA 330/5-84-002. January 1986.

10. United States Environmental Protection Agency (U.S. EPA)."Water Quality Standards Handbook: Second Edition". Report No. EPA-823-8-94-005a. August, 1994.

11. United States Environmental Protection Agency (U.S. EPA). Federal Register, 40 CFR Part 131. "Water Quality Standards Regulation; Proposed Rules". Tuesday, July 7, 1998.

12. United States Environmental Protection Agency (U.S. EPA) "Implementation Guidance for Ambient Water Quality Criteria for Bacteria". May 2002 Draft

Appendix A

Responses to Ballona Creek Recreational Use Survey

8/6/02

Ballona Creek Recreational Use Survey

Name (optional) MARK BURKS

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 120 DAYS
   (b) During wet weather ~~6~~

2. How do you access the creek? BIKE PATH (OVERLAND)

3. What kind of activities do you engage in around the creek/estuary? BIKE RIDING

4. How far up the creek do you go? MARINA

5. What other recreational activities have you observed in and around the creek and estuary?
   WALKING OR SKATING

6. Do you have any concerns about using this creek N/O

7. What is your perception of water quality in the creek? BAD

Ballona Creek Recreational Use Survey

Name (optional)_____

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather ONCE A WEEK
   (b) During wet weather _____

2. How do you access the creek? MCMANUS PARK

3. What kind of activities do you engage in around the creek/estuary? BIKING

4. How far up the creek do you go? MARINA DEL REY

5. What other recreational activities have you observed in and around the creek and estuary? BIKING, JOGGING

6. Do you have any concerns about using this creek NO

7. What is your perception of water quality in the creek? POOR AFTER RAIN
   VARIES

8/12/02

Ballona Creek Recreational Use Survey

Name (optional) John W.

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather _____ 1st time
   (b) During wet weather _____

2. How do you access the creek? via Marina Del Rey

3. What kind of activities do you engage in around the creek/estuary? ~~[illegible]~~ Bicycling

4. How far up the creek do you go? all the way (6 miles from Marina Del Rey)

5. What other recreational activities have you observed in and around the creek and estuary? Running, Walking, Bicycling

6. Do you have any concerns about using this creek Safety? Smell?

7. What is your perception of water quality in the creek? Not great - wouldn't want to drink it or swim in it!

 08/2/02

Ballona Creek Recreational Use Survey

Name (optional) ROSA RAMIREZ

Circle one: Resident/Visitor 25YRS

1. How often do you frequent the creek/estuary?
   (a) In dry weather 3/WK
   (b) During wet weather not when
2. How do you access the creek? BIKE PATH NAT
3. What kind of activities do you engage in around the creek/estuary? JUST BIKING
4. How far up the creek do you go? MARINA DEL REY
5. What other recreational activities have you observed in and around the creek and estuary? WALKING, RUNNIG, PICNICING PAST SEPULVEDA. BY SAWTELLE
6. Do you have any concerns about using this creek SOME SECTIONS DON'T HAVE PROTECTING FENCES (IN THE MIDDLE OF PATH)
7. What is your perception of water quality in the creek? DIRTY, LOTS OF TRASH

Ballona Creek Recreational Use Survey

Name (optional) LARRY CHAMBLEE

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather WEEKLY
   (b) During wet weather WEEKLY

2. How do you access the creek? BIKE PATH THROUGH PARK NEAR JEFFERSON

3. What kind of activities do you engage in around the creek/estuary? BIKE RUN, WALK

4. How far up the creek do you go? AS FAR AS THEY LET ME

5. What other recreational activities have you observed in and around the creek and estuary?
   SOCCER

6. Do you have any concerns about using this creek MUGGING, POLLUTION

7. What is your perception of water quality in the creek? CRAPOLA

* IMPORTANT REC SOURCE. FOR CHILDREN TO PLAY IF THE WATER WERE CLEAN.

8/2/02

Ballona Creek Recreational Use Survey

Name (optional) Jon Nakagawa

Circle one: Resident/(Visitor)

1. How often do you frequent the creek/estuary? Not very often
   (a) In dry weather _____
   (b) During wet weather _____

2. How do you access the creek? Bridge ramp or crack in fench

3. What kind of activities do you engage in around the creek/estuary? Walking, jogging

4. How far up the creek do you go? To the end

5. What other recreational activities have you observed in and around the creek and estuary?
   Soliciting, Bike riding, Jogging

6. Do you have any concerns about using this creek The danger of pollution to children under

7. What is your perception of water quality in the creek? Poor

Ballona Creek Recreational Use Survey

8-2-02

Name (optional)_____

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather Not very often
   (b) During wet weather Not very often

2. How do you access the creek? Through the playgrounds

3. What kind of activities do you engage in around the creek/estuary? walking

4. How far up the creek do you go? Culver

5. What other recreational activities have you observed in and around the creek and estuary? bike riding, jogging

6. Do you have any concerns about using this creek No

7. What is your perception of water quality in the creek? It is very very bad

Ballona Creek Recreational Use Survey

Name (optional) John McGrath 8-2-02

Circle one: (Resident) Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 3 weeks
   (b) During wet weather _____

2. How do you access the creek? Ride

3. What kind of activities do you engage in around the creek/estuary? Ride

4. How far up the creek do you go? _____

5. What other recreational activities have you observed in and around the creek and estuary?

6. Do you have any concerns about using this creek _____

7. What is your perception of water quality in the creek? _____

Ballona Creek Recreational Use Survey

Name (optional)_____ Date: 8-16-02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 3 x WK
   (b) During wet weather 1 x WK

2. How do you access the creek? Bike

3. What kind of activities do you engage in around the creek/estuary? Bike Sightsee

4. How far up the creek do you go? McManus park – Marina

5. What other recreational activities have you observed in and around the creek and estuary? Walk

6. Do you have any concerns about using this creek yes - I would not swim in it

7. What is your perception of water quality in the creek? Poor

Ballona Creek Recreational Use Survey

Name (optional) Hugo Arreamo Date: 8/16/02

Circle one: (Resident) Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 2-3 / wk.
   (b) During wet weather closed when it rains
2. How do you access the creek? @ National
3. What kind of activities do you engage in around the creek/estuary? Biking to work.
4. How far up the creek do you go? to Mar d Rey
5. What other recreational activities have you observed in and around the creek and estuary? Biking, running
6. Do you have any concerns about using this creek shallow water breeds vectors
7. What is your perception of water quality in the creek? won't swim in it would rather go somewhere else. dirty water from drains are a concern.

Ballona Creek Recreational Use Survey

Name (optional) Ronnie Clifton Date: 8/16/02

Circle one: (Resident)/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 6/year
   (b) During wet weather 0
2. How do you access the creek? bike
3. What kind of activities do you engage in around the creek/estuary? bike, bird watch
4. How far up the creek do you go? bike path terminus / ocean
5. What other recreational activities have you observed in and around the creek and estuary? jogging, walking, sleeping
6. Do you have any concerns about using this creek pollution (bac C, viral, runoff, etc.)
7. What is your perception of water quality in the creek? polluted

Ballona Creek Recreational Use Survey

Name (optional) Meghan Date: 8/16 02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 4X week
   (b) During wet weather not yet

2. How do you access the creek? by the bridge · by overland

3. What kind of activities do you engage in around the creek/estuary? running

4. How far up the creek do you go? about 2½ miles, to the 90

5. What other recreational activities have you observed in and around the creek and estuary?
   cycling, walking, kids getting their ball in the H_2O,

6. Do you have any concerns about using this creek it's dirty + polluted

7. What is your perception of water quality in the creek? very bad

Ballona Creek Recreational Use Survey

Name (optional) Merrylin Date: 8/6/02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather everyday
   (b) During wet weather 0
2. How do you access the creek? Overland
3. What kind of activities do you engage in around the creek/estuary? walk dog.
4. How far up the creek do you go? up to next bridge.
5. What other recreational activities have you observed in and around the creek and estuary? biking, walking, dog walking, drinking
6. Do you have any concerns about using this creek its a death sentence.
7. What is your perception of water quality in the creek? murky, nasty.

Merrylin

Ballona Creek Recreational Use Survey

Name (optional) TODD SMITH Date: 8-16-02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 5 times a week
   (b) During wet weather 4 times a week

2. How do you access the creek? from any of several bike entrances

3. What kind of activities do you engage in around the creek/estuary? bird watching biking

4. How far up the creek do you go? From the beach to the far east end

5. What other recreational activities have you observed in and around the creek and estuary? walking, running, rollerblading, taking pictures

6. Do you have any concerns about using this creek sometimes, but it doesn't seem dead

7. What is your perception of water quality in the creek? cleaner after the rains

Ballona Creek Recreational Use Survey

Name (optional)_____ Date: 8/16/02

Circle one: (Resident) / Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather Everyday
   (b) During wet weather yes.
2. How do you access the creek? © Centinela
3. What kind of activities do you engage in around the creek/estuary? walk, bike
4. How far up the creek do you go? To beach → Torrance or Pacific Parks
5. What other recreational activities have you observed in and around the creek and estuary? running walking riding, kids throwing rocks
6. Do you have any concerns about using this creek water is not safe for anything
7. What is your perception of water quality in the creek? very bad. better w/ high tide. Oil sheens.

8-16-02

Ballona Creek Recreational Use Survey

Name (optional) CARLOS RUAS Date: 5/23/02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather _____
   (b) During wet weather _____
2. How do you access the creek? Overcast
3. What kind of activities do you engage in around the creek/estuary? Biking
4. How far up the creek do you go? 1 mi
5. What other recreational activities have you observed in and around the creek and estuary? Walking + Bird watching
6. Do you have any concerns about using this creek Use, Safety
7. What is your perception of water quality in the creek? Could be improved

Ballona Creek Recreational Use Survey

Name (optional) Lon Paul Lee Date: 8-23-02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather ✓
   (b) During wet weather _____
2. How do you access the creek? bike path
3. What kind of activities do you engage in around the creek/estuary? bike ride
4. How far up the creek do you go? from beach to National
5. What other recreational activities have you observed in and around the creek and estuary? bird watching, skateboard, jogging, bike
6. Do you have any concerns about using this creek No
7. What is your perception of water quality in the creek? polluted

Ballona Creek Recreational Use Survey

Name (optional)_____ Date: 8/23

Circle one: Resident/Visitor Culver City

1. How often do you frequent the creek/estuary? 1st time here.
   (a) In dry weather _____
   (b) During wet weather _____
2. How do you access the creek? Culver Blvd.
3. What kind of activities do you engage in around the creek/estuary? Biking
4. How far up the creek do you go? Beach.
5. What other recreational activities have you observed in and around the creek and estuary? none
6. Do you have any concerns about using this creek _____
7. What is your perception of water quality in the creek? Seem worse.

Ballona Creek Recreational Use Survey

Name (optional) Can Asai Date: 8/23/02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather never
   (b) During wet weather never
2. How do you access the creek? I don't
3. What kind of activities do you engage in around the creek/estuary? None
4. How far up the creek do you go? Don't
5. What other recreational activities have you observed in and around the creek and estuary? Bike riding, roller blading, walking
6. Do you have any concerns about using this creek Yes - my husband was mugged on the Ballona creek
7. What is your perception of water quality in the creek? It's gotten better years ago but it's still quite bad

Ballona Creek Recreational Use Survey

Name (optional) Nattie Fuller Date: 8-23-05

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary? ✓
   (a) In dry weather _____
   (b) During wet weather _____
2. How do you access the creek? Bike Pass
3. What kind of activities do you engage in around the creek/estuary? Rideing my bike
4. How far up the creek do you go? National to Beach
5. What other recreational activities have you observed in and around the creek and estuary? Roller Blading
6. Do you have any concerns about using this creek Safe the fish
7. What is your perception of water quality in the creek? Bad

Ballona Creek Recreational Use Survey

Name (optional) Dirk Date: 08/23/02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 2 x week
   (b) During wet weather 2 x "
2. How do you access the creek? Marina or gate at Overland
3. What kind of activities do you engage in around the creek/estuary? biking
4. How far up the creek do you go? Marina - Overland - Marina.
5. What other recreational activities have you observed in and around the creek and estuary? Walking / Running / hanging out
6. Do you have any concerns about using this creek Not really
7. What is your perception of water quality in the creek? dirty

Ballona Creek Recreational Use Survey

Name (optional)_____ Date: 2/23/02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather Daily
   (b) During wet weather _____
2. How do you access the creek? Foot
3. What kind of activities do you engage in around the creek/estuary? Walk
4. How far up the creek do you go? 2 to 3 Miles
5. What other recreational activities have you observed in and around the creek and estuary? Bikers
6. Do you have any concerns about using this creek No
7. What is your perception of water quality in the creek? ? Clean ?

Ballona Creek Recreational Use Survey

Name (optional)_____ Date: 8/23/02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 1/wk
   (b) During wet weather _____
2. How do you access the creek? Sepulveda.
3. What kind of activities do you engage in around the creek/estuary? Biking
4. How far up the creek do you go? Beach.
5. What other recreational activities have you observed in and around the creek and estuary? Biking
6. Do you have any concerns about using this creek rats
7. What is your perception of water quality in the creek? 3 bad

Ballona Creek Recreational Use Survey

Name (optional)_____ Date: 5/23/02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 1/month
   (b) During wet weather _____
2. How do you access the creek? bike path
3. What kind of activities do you engage in around the creek/estuary? bike riding
4. How far up the creek do you go? Overland
5. What other recreational activities have you observed in and around the creek and estuary? Walking
6. Do you have any concerns about using this creek Crime around MarVista Gardens
7. What is your perception of water quality in the creek? Poor

Ballona Creek Recreational Use Survey

Name (optional) Jesus Padilla Date: 8/23/02

Circle one: (Resident) Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 10-12
   (b) During wet weather 2-3

2. How do you access the creek? ON Bike

3. What kind of activities do you engage in around the creek/estuary? Riding ~~by~~ Bicycle.

4. How far up the creek do you go? To its end at the beach.

5. What other recreational activities have you observed in and around the creek and estuary? Running and walking

6. Do you have any concerns about using this creek None

7. What is your perception of water quality in the creek? Good but a bit dirty.

Ballona Creek Recreational Use Survey

Name (optional)_____ Date: 8/23/02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather ✓
   (b) During wet weather don't know yet
2. How do you access the creek? through a gate
3. What kind of activities do you engage in around the creek/estuary? biking
4. How far up the creek do you go? to the beach
5. What other recreational activities have you observed in and around the creek and estuary?
   walking roller blading
6. Do you have any concerns about using this creek sometimes safety
7. What is your perception of water quality in the creek? sometimes it's good one area is usually bad and it's always the same area SW

Ballona Creek Recreational Use Survey

Name (optional) Elias Armenta Date: 8/29/02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 3 week
   (b) During wet weather _____
2. How do you access the creek? Overland entrance
3. What kind of activities do you engage in around the creek/estuary? cycling,
4. How far up the creek do you go? to the [redacted] beach and ba
5. What other recreational activities have you observed in and around the creek and estuary?
   fishing, running, walking, rollerblading,
6. Do you have any concerns about using this creek no
7. What is your perception of water quality in the creek? OK

Ballona Creek Recreational Use Survey

Name (optional) David Simpson Date: 8/29/2

Circle one: ~~Resident~~/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 2X week
   (b) During wet weather 2X week
2. How do you access the creek? LA Cienga
3. What kind of activities do you engage in around the creek/estuary? Bicycling
4. How far up the creek do you go? 20 miles
5. What other recreational activities have you observed in and around the creek and estuary? Runners, dog watchers, skaters, motor(ized) scooters!
6. Do you have any concerns about using this creek yes, wouldn't touch it!
7. What is your perception of water quality in the creek? bad

noisy 2strokes on path.

Ballona Creek Recreational Use Survey

Name (optional) Buck Date: 8/29/02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather _____
   (b) During wet weather _____
2. How do you access the creek? Street
3. What kind of activities do you engage in around the creek/estuary? Riding
4. How far up the creek do you go? Beach
5. What other recreational activities have you observed in and around the creek and estuary? Walking
6. Do you have any concerns about using this creek Glass
7. What is your perception of water quality in the creek? Not Good

Ballona Creek Recreational Use Survey

Name (optional) Cesar Chavez Date: 08/29/02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 6 days / week
   (b) During wet weather
2. How do you access the creek? Bike path
3. What kind of activities do you engage in around the creek/estuary? Bike ride & walk
4. How far up the creek do you go? All the way
5. What other recreational activities have you observed in and around the creek and estuary? Jogging
6. Do you have any concerns about using this creek Yes
7. What is your perception of water quality in the creek? Average

Homeless bathing in water.

Kids sliding down slope

Ballona Creek Recreational Use Survey

Name (optional) [illegible] Date: 8/29/02

Circle one: Resident/Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 5 times/week
   (b) During wet weather 3 times/week
2. How do you access the creek? Duquesne
3. What kind of activities do you engage in around the creek/estuary? cycling jogging
4. How far up the creek do you go? Marina del Rey
5. What other recreational activities have you observed in and around the creek and estuary?
   kids playing around the water
6. Do you have any concerns about using this creek broken glass on path
7. What is your perception of water quality in the creek? It looks unsafe and a little bit unkept

Ballona Creek Recreational Use Survey

Name (optional) Lawrence Date: 8/29/02

Circle one: (Resident)/Visitor Manhattan

1. How often do you frequent the creek/estuary?
   (a) In dry weather 3/week
   (b) During wet weather 3/week

2. How do you access the creek? Bike path

3. What kind of activities do you engage in around the creek/estuary? Hiking, biking.

4. How far up the creek do you go? 4 mile.

5. What other recreational activities have you observed in and around the creek and estuary? biking, Mingo blading, fishing, walking.

6. Do you have any concerns about using this creek None, nice area.

7. What is your perception of water quality in the creek? Clean

Ballona Creek Recreational Use Survey

Name (optional) A. A. Date: Aug. 29, 2002

Circle one: (Resident) / Visitor

1. How often do you frequent the creek/estuary?
   (a) In dry weather 2x per month
   (b) During wet weather 2x per month

2. How do you access the creek? at Overland

3. What kind of activities do you engage in around the creek/estuary? Bike

4. How far up the creek do you go? To the ocean.

5. What other recreational activities have you observed in and around the creek and estuary?
   Walking, rollerblading, kids hanging out by water, fishing by Marina del Rey.

6. Do you have any concerns about using this creek No.

7. What is your perception of water quality in the creek? Sometimes looks funky/lots of algae at some parts, but the ducks look okay.
   I certainly wouldn't ever fish or go in water!

Appendix B

Table 4: Criteria for Indicator for Bacteriological Densities
in USEPA's "Ambient Water Quality Criteria for Bacteria – 1986"
Report No. EPA 330/5-84-002

TABLE 4. CRITERIA FOR INDICATOR FOR BACTERIOLOGICAL DENSITIES

	Acceptable Swimming Associated Gastro-enteritis Rate per 1000 swimmers	Steady State Geometric Mean Indicator Density	Single Sample Maximum Allowable Density: Designated Beach Area (upper 75% C.L.)	Moderate Full Body Contact Recreation upper 82% C.L.)	Lightly Used Full Body Contact Recreation upper 90% C.L.)	Infrequently Used Full Body Contact Recreation (upper 95% C.L.)
Freshwater						
enterococci	8	33 (1)	61	78	107	151
E. coli	8	126 (2)	235	298	410	576
Marine Water						
enterococci	19	35 (3)	104	158	275	500

Notes:

(1) Calculated to nearest whole number using equation:

$$\text{(mean enterococci density)} = \text{antilog}_{10} \frac{\text{illness rate/1000 people} + .28}{9.40}$$

(2) Calculated to nearest whole number using equation:

$$\text{(mean E. coli density)} = \text{antilog}_{10} \frac{\text{illness rate/1000 people} + 11.74}{9.40}$$

(3) Calculated to nearest whole number using equation:

$$\text{(mean enterococci density)} = \text{antilog}_{10} \frac{\text{illness rate/1000 people} - .20}{12.17}$$

(4) Single sample limit = antilog_{10} [$\log_{10}$ indicator geometric mean density/100 ml + { Factor determined from areas under the Normal probability curve for the assumed level of probability } x ($\log_{10}$ standard deviation)]

The appropriate factors for the indicated one sided confidence levels are:

75% C.L. - .675
82% C.L. - .935
90% C.L. - 1.28
95% C.L. - 1.65

(5) Based on the observed log standard deviations. During the EPA studies: 0.4 for freshwater E. coli and enterococci; and 0.7 for marine water enterococci. Each jurisdiction should establish its own standard deviation for its conditions which would then vary the single sample limit.