RWQCB 8

PAGE **California Regional Water Quality Control Board** Santa Ana Region



Winston H. Hickox Secretary for Environmental Protection

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FACSIMILE TRANSMITTAL

DATE: July 19, 2002
TO: Craig J- Wilson
FAX NO: (916) 341-5463
FROM: Parlova Vitale
SENDER'S DIRECT TELEPHONE NUMBER: (909) 782-4920
NUMBER OF PAGES, INCLUDING TRANSMITTAL MEMO:
SUBJECT: EXCERPTS from Santa Hana Delhi
EIR as requested
MESSAGE:

PLEASE CONTACT THE SENDER AT THEIR DIRECT TELEPHONE NUMBER WITH ANY QUESTIONS.

California Environmental Protection Agency

3. PROJECT DESCRIPTION

3.1 **Project History**

The following information is taken from "Project Report, Santa Ana-Delhi Channel (F01), Upper Newport Bay to San Diego Freeway and Paularino Channel (F03), From Newport Freeway to Harbor Boulevard" prepared for the Orange County Environmental Management Agency by Willdan Associates, July 1982.

The Santa Ana-Delhi Channel and its tributaries drain approximately 11,000 acres principally located in Santa Ana and Costa Mesa. It appears that the land historically drained to the Santa Ana River; however, drainage was sluggish at best. The land probably flooded each time the Santa Ana River flowed. The area was marked with natural sumps and swamps.

Around the turn of the century, farming interests began development of the land. In 1870, a community called Delhi was formed in the vicinity of Warner Avenue. The land was used for the production of sugar beets and several sugar factories were established in the area.

As farming intensified and prospered, a better drainage system was required. It is probable that during the late 19th century, farming interests excavated a ditch to the Upper Newport Bay to drain the land since the river was now leveed and local drainage was blocked.

In 1909, the Orange County Board of Supervisors formed the Delhi Drainage District. The district was bounded roughly by Fairview Street on the west, Edinger Street on the north, Myford Road on the east, and the San Diego Freeway on the south.

The early activities of the Delhi Drainage District are not well known, but it appears that the district maintained facilities which drained the area to Newport Bay. In 1929 the district acquired drainage easements between the Back Bay and approximately Newport Boulevard (approximately the boundary of the drainage district in this area) from The Irvine Company. The Santa Ana-Delhi Channel followed approximately its existing alignment between Newport Bay and Sunflower Avenue, although it appears that the ditch upstream of Newport Avenue was on private lands.

In the late 1940s and early 1950s, the Orange County Flood Control District began acquiring easements for the Santa Ana-Delhi Channel between the Back Bay and Sunflower Avenue. The Flood Control District, by agreement with the Delhi Drainage District and The Irvine Company, acquired Delhi easements downstream of Newport Avenue. The Flood Control District acquired easements at nominal cost between Newport Avenue and Sunflower Avenue for the Santa Ana-Delhi Channel, formerly known as the "Main Ditch."

The Flood Control District's 1955 Engineers Report included Santa Ana-Delhi Channel and Santa Ana Gardens Channel as projects F01 and F02, respectively. The subsequent 1956

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bond issue was successful and the district undertook improvements to the Santa Ana-Delhi Channel. The improvements included certain realignments of the channel and widening. The channel was designed to carry 65% of the expected runoff from a storm with a 25-year recurrence interval.

The widening of the channel and its extension above Sunflower Avenue, as well as the extension of the tributary Santa Ana Gardens Channel, required the acquisition of additional rights-of-way. On the advice of the district's design consultant, the confluence of the Santa Ana-Delhi Channel with the Santa Ana Gardens Channel was constructed at Sunflower Avenue rather than downstream of the existing San Diego Freeway as recommended in the Engineers Report. The alignment thus followed the alignment of Delhi's "Main Ditch" downstream of Sunflower Avenue. The alignment upstream of Sunflower Avenue also followed the alignment of Delhi Ditch.

In 1955, the Delhi Drainage District deeded the "East Ditch", subsequently called the Santa Ana Gardens Channel, to the City of Santa Ana by agreement. This ditch was located on the north side of Sunflower Avenue between Santa Ana-Delhi Channel and a point approximately 1,700 feet westerly, where the channel turned northerly. The Flood Control District's bond improvement project for this channel included a realignment which required additional rights-of-way acquisition.

In 1960, an election was held which resulted in the dissolution of the Delhi Drainage District. Remaining funds were transferred to the County of Orange.

Flood Control District bond projects were completed in the early 1960s. In 1965, the State of California extended the San Diego Freeway eastward and constructed a triple 13' x 15' reinforced concrete box culvert crossing of the Santa Ana-Delhi Channel sized for runoff from 25-year frequency storms.

Since 1972, the Orange County Environmental Management Agency has completed construction on the following projects:

- A concrete-lined, vertical-walled channel upstream of the confluence of Santa Ana-Delhi Channel and Santa Ana Gardens Channel to Flower Street.
- A concrete-lined, vertical-walled channel in the Santa Ana-Delhi Channel between the Southern Pacific Railroad crossing and Warner Avenue.
- A concrete-lined, vertical-walled channel in the Santa Ana Gardens Channel between Sunflower Avenue and Alton Avenue.
- A five-barrel R.C. box channel in the Santa Ana-Delhi Channel between the confluence of the Santa Ana-Delhi and Airport Channels to Sunflower Avenue.

A concrete-lined, vertical-walled channel with hard bottom (overlaid with sediment) from the Mesa Drive Bridge upstream to the Irvine Avenue Bridge.

A concrete-lined, vertical-walled channel with hard bottom (overlaid with sediment) from the Irvine Avenue Bridge upstream to the Santa Ana Avenue Bridge.

A concrete-lined, vertical-walled channel with hard bottom and some length in box culvert from the Santa Ana Avenue Bridge upstream to the Corona Del Mar Freeway.

3.2 Project Location and Boundaries

This EIR addresses existing and potential development issues and construction impacts within the Santa Ana-Delhi Channel System. The regional location and project vicinity are illustrated on Exhibit 1 and Exhibit 2, respectively. The channel improvement/wetlands restoration project area is a linear site bounded by Mesa Drive and the Newport Beach Golf Course on the north, single family dwellings on the south and west, and the Upper Newport Bay Regional Park and Upper Newport Bay Ecological Reserve to the south and east. An aerial photo of the project area is contained in Exhibit 3 to provide a surrounding land use context for the project. The complex extends northerly into the cities of Costa Mesa and Santa Ana. The channel extends to Sunflower Avenue between Bristol and Flower Streets where it separates into two channels. The western leg (Santa Ana Gardens Channel) travels north to First Street generally along Raitt Street. The eastern leg (Santa Ana-Delhi Channel) parallels Flower Street to its terminus at Warner Avenue.

3.3 **Project Goals and Objectives**

CEQA Guidelines Section 15126(d) requires that the EIR describe a range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project, and that this discussion evaluate the comparative merits of the alternatives. The Guidelines further state that the discussion of alternatives shall focus on alternatives capable of eliminating any significant adverse environmental effects or reducing them to a level of insignificance, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly. Because the CEQA Guidelines require that an EIR contain a statement of objectives sought by the project in order to establish a basis for the examination of alternatives, the following list of project objectives are provided:

1. To provide a channel capable of carrying the ultimate design discharge projected for the Santa Ana-Delhi Channel System.

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- A concrete-lined, vertical-walled channel with hard bottom (overlaid with sediment) from the Mesa Drive Bridge upstream to the Irvine Avenue Bridge.
- A concrete-lined, vertical-walled channel with hard bottom (overlaid with sediment) from the Irvine Avenue Bridge upstream to the Santa Ana Avenue Bridge.
- A concrete-lined, vertical-walled channel with hard bottom and some length in box culvert from the Santa Ana Avenue Bridge upstream to the Corona Del Mar Freeway.

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1. To provide a channel capable of carrying the ultimate design discharge projected for the Santa Ana-Delhi Channel System.

- 2. To decrease local scour along all channel reaches, at the channel outlet to the Upper Newport Bay, and to reduce the amount of sediment transported to the Bay from the current facility.
- 3. To provide a habitat restoration program which contains sufficient area to offset any loss resulting from future projects on the channel.

3.4 **Project Description and Characteristics**

a. <u>Background</u>

The Santa Ana-Delhi Channel complex consists of approximately 11 miles of flood control channels, draining a watershed of about 11,000 acres. There are four channels which comprise the complex: Santa Ana-Delhi Channel (Facility F01), Santa Ana Gardens Channel (Facility F02), Paularino Channel (Facility F03), and the Airport Storm Channel (Facility F01S01). Operation and maintenance of these facilities is the responsibility of the Orange County Flood Control District (OCFCD).

Over the years, OCFCD has acquired rights-of-way for the channel sufficient to accommodate improvements necessary to provide 100-year storm protection in the entire watershed. The improvements necessary to convey the 100-year storm flow have not, in all cases, been installed. Table 2 describes each channel reach and identifies those which currently have full improvements installed. (A check mark \checkmark symbolizes that ultimate improvements have been constructed for the reach indicated.)

Reach	Length (feet)	Ultimate Improvements
Santa Ana-Delhi Channel (Facility F01)		
Downstream end to Bicycle Bridge	1,100	Abandoned
Bicycle Bridge to Mesa Drive	3,000	
Mesa Drive to Irvine Avenue	900	~
Irvine Avenue to Santa Ana Avenue	3,000	· ·
Santa Ana Avenue to Bristol Street	1,300	~
Bristol Street to SR 73	600	~

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Santa	Ana-Delhi	Channel	Improvements

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	Length	Ultimate			
Keach	(Ieet)	Improvements			
D/S SR 73 to U/S SR 73	300	V			
Paularino Channel to Baker Street	2,200				
Baker Street to Paularino Avenue	750				
Paularino Avenue to San Diego Fwy.	1,700				
D/S San Diego Fwy. to U/S San Diego Fwy.	600				
U/S San Diego Fwy. to D/S Anton Street	430	×			
Anton Street to Sunflower Avenue	1,400	V .			
Sunflower Avenue to Flower Street	1,800	· ·			
Sunflower Avenue to MacArthur Blvd.	2,000	v			
MacArthur Blvd. to Alton Avenue	2,000	· ·			
Alton Avenue to Southern Pacific Railroad	600	v			
Southern Pacific Railroad to Warner Avenue	3,000	1			
Santa Ana Gardens Channel (Facility F02)					
Sunflower Avenue to MacArthur Blvd.	2,100				
MacArthur Blvd. to Alton Avenue	1,500	v			
Alton Avenue to Segerstrom Avenue	1,300	V			
Segerstrom Avenue to Warner Avenue	3,100	V			
Warner Avenue to Edinger Avenue	4,850	V			
Edinger Avenue to McFadden Avenue	5,000	v .			
McFadden Avenue to First Street	5,000	1			
Paularino Channel (Facility F03)					
SR 73 to Bristol Street	1,000	 ✓ 			
Bristol Street to Fairview Road	6,800	~			
Fairview Road to Harbor Blvd.	3,700	V			
Airport Storm Channel (Facility F01S01)					
At the San Diego Freeway	400	~			

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It is evident from the information in Table 2 that the majority of the channel complex has 100-year storm improvements already installed. In fact, only 17% (10,350 feet) of the channel does not have ultimate improvements completed.

In 1991, the OCFCD received notification from the U.S. Army Corps of Engineers (COE) of the approval of an application for a §404 Permit on an upstream reach of the channel subject to several conditions. One of these conditions stipulated that no additional permits would be granted for any reach of the channel complex until OCFCD completed a comprehensive mitigation program for the entire channel, including retroactive mitigation for work completed after July, 1986. This notification came after OCFCD initiated the environmental process for the improvements downstream of Mesa Drive. Work on that documentation was suspended to complete the studies required by the COE. This document reports the findings and conclusions of these studies.

b. Improvements to the Santa Ana-Delhi Channel System

Of the 29 designated reaches within the system, 6 require upgrading to meet the County's goal of 100-year flood protection. Five of these are on the Santa Ana-Delhi Channel: Bicycle Bridge to Mesa Drive, Paularino Channel junction to Baker Street, Baker Street to Paularino Avenue, Paularino Avenue to San Diego Freeway, and downstream of the San Diego Freeway to upstream of the San Diego Freeway. One reach is on the Santa Ana Gardens Channel: Sunflower Avenue to MacArthur Boulevard. Table 3 is a comprehensive table which compares the July, 1986 channel condition to the proposed ultimate condition, reach by reach.

Four additional reaches (Mesa Drive to Irvine Avenue, Irvine Avenue to Santa Ana Avenue, Santa Ana Avenue to Bristol Street, and Bristol Street to the Corona del Mar Freeway) all on the Santa Ana-Delhi Channel, have been reconstructed to their ultimate designs since July, 1986, and must therefore be mitigated, according to 404 Permit No. 91-430-GS negotiated between the Orange County Flood Control District and the Corps of Engineers, Los Angeles District. The Biological Resources section of this EIR examines this issue and provides an analysis of mitigation needs.

c. Improvements to Santa Ana-Delhi Channel Downstream of Mesa Drive

This component includes the construction of improvements to the channel in the reach from the University Drive bicycle trail bridge upstream to Mesa Drive. The channel in this location is 20 feet wide and has an earthen bottom and right side along the golf course. The left channel bank is a 1.25:1 reinforced concrete side slope adjacent to the residences on Anniversary Lane and earthen downstream to the bicycle trail bridge. Downstream of the bicycle trail bridge, the channel is contained by an eroded earthen berm which separates the channel from the Upper Newport Bay Ecological Reserve.

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The channel is proposed to be expanded in order to convey the ultimate design flow of 8,700 cubic feet per second (cfs). The engineering plans for the project are contained in Appendix B. The proposed channel improvements include widening the bottom of the channel to 60 feet. On the right side (looking upstream), channel slopes will be constructed at 2:1 and will be earthen (either rip-rap or grassed). The reinforced concrete side slope on the left side will be maintained. At the downstream end, a grouted rock stabilizer will be constructed. The design will accommodate the design flow with some flooding of the golf course. It will also be necessary to extend the bicycle trail bridge to cross the widened channel. The Flood Control District intends to abandon all but about 200 feet of the channel downstream of the bicycle trail bridge. Immediately downstream of the bridge, some grading and channel reconstruction will take place as part of a realignment that will aim flood flows away from sensitive habitat in Upper Newport Bay.

Implementation of the project will require the acquisition of 2.666 acres of additional property from two landowners. A breakdown of the property required by owner is provided in Table 4. Additionally, one tee on the golf course will be lost during grading and will require relocation.

Owner	Right of W	ey Required	Total
The Irvine Company	1.094	Golf Course	2.311
State of California	0.355		0.355
Total	1.449	1.217	2.666

Table 4Right-of-Way Acquisition Requirements (Acres)

The project now proposed differs in significant respects from that proposed originally and evaluated in a February 1991 biological assessment (Appendix D). At that time, Alternate 1 (the recommended alternative) proposed the construction of a broad-crested side weir and channel outlet about 1,100 feet southwest of the bicycle bridge out into Upper Newport Bay. Internal and consultant examination of this alternative concluded that the biological costs (loss of saltmarsh habitat) outweighed the hydrological benefits (reduced velocity and scouring at the channel/bay interface). This conclusion is reported in Appendix D. The project now proposed most resembles Alternate 3 in the Design Memorandum and biological assessment (Appendix D). The major modification is that while Alternate 3 stopped at the bicycle bridge and abandoned the diked channel downstream of this point, the project currently recommended involves a small amount of work just downstream of the bridge to realign the channel and armor its southern levee with riprap for about 100 feet, both of which are intended to protect sensitive habitat in Back Bay from erosive flood flows.

d. <u>Wetlands Restoration/Mitigation Bank</u>

The project includes a wetlands restoration/mitigation program which is intended to provide mitigation for all impacts to wetland resources associated with the remaining channel improvements. Saltmarsh and brackish marsh wetlands are proposed for creation by excavating a swath of barren ground adjacent to the channel upstream of the University Drive bicycle bridge. A detailed study of the existing and ultimate wetland values for the channel complex has been prepared. That report is described in detail in the Biological Resources section.

The second component of the program will be a wetlands restoration program and resource management program. These plans are included as Appendix K.

3.4.1 <u>Technical Characteristics</u>

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The proposed project will require the following approvals from the County of Orange and other regulatory agencies:

Approval of Plans and Specifications - After certification of this EIR, the County Board of Supervisors must approve the construction plans and specifications and authorize sending the project out to bid.

- <u>1601-03 Notification</u> Sections 1601-03 of the Fish and Game Code require the County to notify the Department of Fish and Game of any project which will divert, obstruct or change the natural flow or bed, channel or bank of any river, stream or lake designated by the Department. Such notification, and the establishment of any conditions or additional mitigation measures by the Department of Fish and Game, shall occur prior to any grading taking place.
- <u>404 Permit</u> Section 404 of the Federal Clean Water Act requires that the a permit be obtained for any work within the limits of "waters of the United States." This permit, to be obtained from the U.S. Army Corps of Engineers, must also be secured prior to any grading activities.
- <u>Coastal Development Permit</u> A portion of the proposed project is located within the Coastal Zone. Prior to any construction activities downstream of Mesa Drive, therefore, it will be necessary to secure a Coastal Development Permit from the California Coastal Commission.

3.4.2 Environmental Characteristics

Chapter 4, "Environmental Setting, Impacts, and Mitigation Measures," fully evaluates the specific environmental concerns and characteristics associated with the proposed project. Briefly, the project would permanently alter the existing appearance of the six channel

reaches requiring upgrading to a level of 100-year flood protection. Downstream of Mesa Drive, the project will widen the facility to accommodate 100-year storm flows. As noted above, between Mesa Drive and the University Drive bike trail bridge, the project site is typical of other urban flood control channels in the County. It is surrounded by residential and recreational development, including a golf course and the Upper Newport Bay Regional Park. Downstream of the bike trail bridge, the channel empties into Upper Newport Bay, a significant ecological resource managed by the State of California.

The remaining four reaches needing reconstruction on F01 -- from the Paularino Channel confluence upstream to the upstream side of the San Diego Freeway -- all lie within a heavily urbanized portion of the City of Costa Mesa. All but the last reach under the freeway are unstable earthen trapezoidal channels with a design base width of 23 feet; these channels are gradually caving in, a process of degradation which contributes larger sediment flows to Upper Newport Bay. The channels' biological resources are detailed in Chapter 4. Surrounding land uses are predominantly commercial, office and light industrial.

3.4.3 <u>Required Permit Approvals</u>

The County will need to obtain a variety of permits and discretionary approvals under County and other jurisdictions. Table 5 is a matrix of these permits and approvals which serve to apprise interested persons of the types of permits which will be necessary to implement complete development of the project and also serves as a notification to responsible agencies of these permits so that they may notify the County if there is any dispute as to their jurisdiction.

Permit	County	DFG	COE	City of Newport Beach	City of Costa Mesa	City of Santa Ana	Coastal Comm.
Plans and Specifications	~			~	~	~	
1601-03 Notification		~					
404 Permit			~				
Coastal Development Permit							~

Table 5 Matrix of Project Approvals

3.5 **Project Phasing**

It is expected that the project will be constructed in a number of phases over a period of several years or more. If the County selects to construct interim improvements in the reach

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State Water Resources Control Board

Executive Office

1001 I Street • Sacramento, California 95814 • (916) 341-5615 Mailing Address: P.O. Box 100 • Sacramento, California • 95812-0100 FAX (916) 341-5621 • Web Site Address: http://www.swrcb.ca.gov



The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at http://www.swrcb.ca.gov.

The Honorable Lou Correa California State Assembly State Capitol, Room 6025 Sacramento, CA 95814

Dear Assembly Member Correa:

Thank you for your comments on the 2002 update of the federal Clean Water Act (CWA) section 303(d) list [303 (d) list]. State Water Resources Control Board (SWRCB) staff is reviewing all comments submitted. The comments you provided in your June 13, 2002 letter are very important, and are presented below, followed by our response to each comment.

1. Currently, the county of Orange owns the Santa Ana/Delhi Channel and the Channel is concrete lined to carry flows primarily during rainstorms. How could such a Channel be placed on this list, when the regulations, under which it was recommended, pertain to the protection of recreational uses?

As you know, the Santa Ana Delhi Channel (Channel) drains parts of the cities of Santa Ana and Costa Mesa and ultimately flows into Upper Newport Bay (Bay). Reconnaissance by Santa Ana Regional Water Quality Control Board (RWQCB) staff indicates that about 38 percent of the Channel is unlined; the unlined reaches alternate with concrete lined reaches along the entire length of the Channel. These areas are delineated on the enclosed

California Environmental Protection Agency

The Honorable Lou Correa

topographical map (Enclosure 1). Also enclosed are some photographs of the unlined reaches of the Channel (Enclosures 2, 3, and 4).

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We recognize that the Channel is intended to convey runoff but may also be designated for beneficial uses. Further, we are aware that there are signs prohibiting access to these areas of the Channel. Nevertheless, the Channel can be accessed by the public, particularly in the unlined reaches. People may seek or inadvertently have contact with flows by wading in the Channel. The Orange County Health Care Agency (OCHCA) has collected fecal coliform data on flows in the Channel and, based on its analysis of that data, recommended that the Channel be added to the 303(d) list. The OCHCA's findings and recommendations are consistent with earlier (1999) findings by RWQCB staff during the development of the Fecal Coliform Total Maximum Daily Load (TMDL) for the Bay. A key element of that TMDL was the identification and evaluation of sources of fecal coliform input to the Bay.

Review of fecal coliform data for the Channel by RWQCB staff indicated that the Channel was a pollutant source and that the fecal coliform levels in the Channel did not comply with for the fecal coliform objective established in the Santa Ana Regional Water Quality Control Plan (Basin Plan). Consequently, a 303(d) listing is appropriate. However, given that portions of the Channel are concrete lined and posted to prohibit access, it seems appropriate for SWRCB to consider the 303(d) listing only for the unlined reaches of the Channel.

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If a 303(d) listing for the Channel is approved by SWRCB and the U.S. Environmental Protection Agency (USEPA), it appears likely that watershed stakeholders will need to take steps to address the fecal coliform levels found in the Channel. As noted above, a Fecal Coliform TMDL for the Bay has been developed and approved by both SWRCB and USEPA. To implement this TMDL, input from the Channel that impacts bacterial quality in the Bay needs to be controlled.

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Finally, we should also note that RWQCB recently initiated the triennial review of its Basin Plan. RWQCB staff is aware that a number of local watershed stakeholders, including Orange County, have expressed concern about the proposed 303(d) listing of the Channel and have recommended to RWQCB a review of the appropriateness of the water contact recreation (REC-1) beneficial use designation for the Channel. The stakeholders may commit to providing resources to assist RWQCB in this review. If the review is conducted and REC-1 use is demonstrated to be inappropriate, the 303(d) listing of the Channel, if approved during this listing process, would be revised accordingly.

2. The data used to place the Channel on the 303(d) list was taken three years ago. How can this data be used to establish a designation today when the current environment more likely than not has changed? Does the data apply to the whole Channel or just portions of the Channel?

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Compliance with CWA section 303(d) requires evaluation of all readily available data and information submitted since the last 303(d) list update completed in 1998. The available data for the Channel during the current listing cycle was collected in 1997 and 1998 in both wet and dry seasons.

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As part of the development of the Newport Bay Fecal Coliform TMDL, the Channel was identified as a source of bacterial contamination that impacts recreation activities in the Bay. The data for the Channel evaluated as part of the Newport Bay TMDL development indicates that out of 22 weeks of coliform data collection, all exceeded the bacterial standards for REC-1.

In response to your letter, RWQCB staff did review data for the Channel collected by OCHCA during 2001 and 2002. In 2001, there were 7 exceedances of REC-1 bacterial objective out of 7 samples collected (30-day, 5-sample geometric mean of fecal coliform). From January to June 2002, there were 5 exceedances of REC-1 bacterial objective out of 5 samples collected. In addition to exceedances of REC-1 bacterial objective, the bacteria objective for the non-contact water recreation (REC-2) uses (e.g., picnicking) was exceeded 3 out of 7 times in 2001 and 2 out of 5 times in 2002. This clearly indicates that the Channel continues to have consistently elevated bacteria levels.

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3. In all the documentation either reviewed online or received from other parties, there appears to be no reference to a cost/benefit analysis. First of all, when is the cost benefit analysis done and if it is, where is it located in statute or regulation? In today's fiscal environment with limited resources we must be diligent in making sure these changes are cost effective.

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CWA section 303(d) does not require cost-benefit analyses to be conducted as part of the development and submittal of the 303(d) list to USEPA. Economic considerations are part of the process to incorporate a TMDL and associated implementation plan into RWQCB's Basin Plan. RWQCB must comply with the California Environmental Quality Act (CEQA) when amending the Basin Plan. CEQA requires that RWQCB perform an environmental analysis of the reasonably foreseeable methods of compliance with the Basin Plan amendment that establishes TMDLs. This analysis must include economic factors. For your information, a relevant memorandum from SWRCB's Office of Chief Counsel is enclosed describing how economic factors should be considered (Enclosure 5).

If we can be of further assistance, please telephone me at 916-341-5611. This subject is currently under the direction of Stan Martinson, Chief of the Division of Water Quality, 916-341-5458.

Sincerely,

California Environmental Protection Agency

The Honorable Lou Correa

Arthur G. Baggett, Jr. Chairman

Enclosures (5)

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Santa Ana Delhi Channel, Santa Ana Gardens Channel, and Santa Ana Paularino Channel



IV Concrete Lined IV Natural Channel IV Soft Bottom





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Winston H. Hickox

Secretary for Environm

iental Protection

State Water Resources Control Board



Office of Chief Counsel 901 P Street • Sacramento, California 95814 • (916) 657-2154 Mailing Address: P.O. Box 100 • Sacramento, California 95812-0100 FAX (916) 653-0428 • Internet Address: http://www.swrcb.ca.gov

TO:

Stefan Lorenzato TMDL Coordinator Division of Water Quality

. Var Sheila K. Vassey

FROM:

Senior Staff Counsel **OFFICE OF CHIEF COUNSEL**

OCT 2 7 1999 DATE:

ECONOMIC CONSIDERATIONS IN TMDL DEVELOPMENT AND SUBJECT: BASIN PLANNING

ISSUE

When are the Regional Water Quality Control Boards (Regional Water Boards or Boards) legally required to consider economics in Total Maximum Daily Load (TMDL)¹ development and water quality control planning (basin planning)?²

CONCLUSION

The Regional Water Boards, in general, adopt TMDLs as basin plan amendments. Under state law, there are three triggers for Regional Water Board consideration of economics or costs in basin planning. These are:

- The Regional Water Boards must estimate costs and identify potential financing sources in the basin plan before implementing any agricultural water quality control program.
- The Boards must consider economics in establishing water quality objectives that ensure the reasonable protection of beneficial uses.

See 33 U.S.C. § 1313(d); 40 C.F.R. § 130.7.

² See Wat. Code §§ 13240-13247.

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Stefan Lorenzato

• The Boards must comply with the California Environmental Quality Control Act (CEQA)³ when they amend their basin plans. CEQA requires that the Boards analyze the reasonably foreseeable methods of compliance with proposed performance standards and treatment requirements. This analysis must include economic factors.

Economic factors come into play under federal law when the Regional Water Boards designate uses. Specifically, the Boards can decide not to designate, dedesignate, or establish a subcategory of, a potential use where achieving the use would cause substantial and widespread economic and social impact.

DISCUSSION

I. STATE LAW

Under federal and state law, the Regional Water Boards are required to include TMDLs in their basin plans.⁴ There are three statutory triggers for an economic or cost analysis in basin planning. These triggers are:

- adoption of an agricultural water quality control program;
- adoption of water quality objectives; and
- adoption of a treatment requirement or performance standard (CEQA).

Each category is briefly discussed below.

A. Agricultural Water Quality Control Program

Agricultural activities are significant sources of nonpoint source pollution. Many waterbodies in the state are impaired due to one or more agricultural operations. As a result, the Regional Water Boards will be faced with developing programs to control agricultural activities, as part of TMDL development.

Under the Porter-Cologne Water Quality Control Act (Porter-Cologne),⁵ before a Regional Water Board implements an agricultural water quality control program, the Board must identify

³ Wat. Code § 13000 et seq.

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³ Pub. Resources Code § 21000 et seq.

⁴ See 33 U.S.C. § 1313(d); 40 C.F.R. § 130.7(d)(2) (TMDLs must be incorporated into the state's water quality management plan. In California the basin plans are part of the state's water quality management plan.); Wat. Code §§ 13050(j), 13242.

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the total cost of the program and potential sources of financing.⁶ This information must be included in the basin plan.

The statute does not define "agricultural" programs. The Legislature has, however, defined agricultural activities elsewhere to mean activities that generate "horticultural, viticultural, forestry, dairy, livestock, poultry, bee, or farm product[s]."⁷ Because "agricultural" programs under Porter-Cologne are not restricted to particular activities, presumably, the Legislature intended that the term be interpreted broadly. Thus, the Regional Water Boards should identify costs and financing sources for agricultural water quality control programs" covering not only typical farming activities but also silviculture, horticulture, dairy, and the other listed activities.

The statute focuses only on costs and financing sources. The statute does not require the Regional Water Boards to do, for example, a cost-benefit analysis or an economic analysis.

B. Water Ouality Objectives

Porter-Cologne requires that the Regional Water Boards take "economic considerations", among other factors, into account when they establish water quality objectives.⁸ The objectives must ensure the reasonable protection of beneficial uses and the prevention of nuisance.⁹

Attached to this memorandum is a 1994 memorandum containing guidance on the consideration of economics in the adoption of water quality objectives.¹⁰ The key points of this guidance are:

- The Boards have an affirmative duty to consider economics when adopting water quality objectives.
- At a minimum, the Boards must analyze: (1) whether a proposed objective is currently being attained; (2) if not, what methods are available to achieve compliance with the objective; and (3) the costs of those methods.

⁵ *Id.* § 13141.

⁷ Food & Agr. Code §§ 564(a), 54004.

⁸ Wat. Code § 13241. The other factors include the past, present, and probable future beneficial uses of water; environmental characteristics of the hydrographic unit under consideration; water quality conditions that could reasonably be achieved through the coordinated control of all factors affecting water quality in the area, the need for developing housing, and the need to develop and use recycled water.

⁹ Ibid.

¹⁰ Memorandum, dated January 4, 1994, from William R. Attwater, Chief Counsel, to Regional Water Board Executive Officers and Attorneys, entitled "Guidance on Consideration of Economics in the Adoption of Water Quality Objectives".

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 If the economic consequences of adoption of a proposed objective are potentially significant, the Boards must state on the record why adoption of the objective is necessary to ensure the reasonable protection of beneficial uses or the prevention of nuisance.

• The Regional Water Boards can adopt objectives despite significant economic consequences.

• The Boards are not required to do a formal cost-benefit analysis.

C. <u>CEOA</u>

The Regional Water Boards must comply with CEQA when they amend their basin plans.¹¹ The State Resources Agency has certified the basin-planning program as exempt from the requirement to prepare environmental documents under CEQA.¹² In lieu of preparing an environmental impact report or negative declaration, the Boards must comply with the State Water Resources Control Board's regulations on exempt regulatory programs when they amend their basin plans.¹³ These regulations require the Boards to prepare a written report that analyzes the environmental impacts of proposed basin plan amendments.¹⁴ In general, CEQA requires the Regional Water Boards to consider economic factors only in relation to physical changes in the environment.¹⁵

CEQA also has specific provisions governing the Regional Water Boards' adoption of regulations, such as the regulatory provisions of basin plans that establish performance standards or treatment requirements. The Boards must do an environmental analysis of the reasonably foreseeable methods of compliance with those standards or requirements.¹⁶ They must consider economic factors in this analysis.

CEQA does not define "performance standard"; however, the term is defined in the rulemaking provisions of the Administrative Procedure Act.¹⁷ A "performance standard" is a regulation that describes an objective with the criteria stated for achieving the objective.¹⁸

¹¹ See Pub. Resources Code § 21080.

¹² See Cal. Code Regs., tit. 14, §.15251(g).

¹³ See Cal. Code Regs., tit. 23, §§ 3775-3782.

¹⁴ *İd.* § 3777.

¹⁵ See Cal. Code Regs., tit. 14, § 15064(e).

¹⁶ Pub. Resources Code § 21159.

¹⁷ Gov. Code §§ 11340-11359.

¹⁸ Id. § 11342(d).

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TMDLs will typically include performance standards. TMDLs normally contain a quantifiable target that interprets the applicable water quality standard. They also include wasteload¹⁹ allocations for point sources, and load allocations²⁰ for nonpoint sources and natural background to achieve the target.²¹ The quantifiable target together with the allocations may be considered a performance standard. Thus, the Regional Water Board must identify the reasonably foreseeable methods of compliance with the wasteload and load allocations and consider economic factors for those methods. This economic analysis is similar to the analysis for water quality objectives discussed above. That is, the Regional Water Board should determine: (1) whether the allocations are being attained; (2) if not, what methods of compliance are reasonably foreseeable to attain the allocations; and (3) what are the costs of these methods.

II. FEDERAL LAW

Under federal law, economics can be considered in designating potential beneficial uses. Specifically, the federal water quality standards regulations allow a state to dedesignate, to decide not to designate, or to establish a subcategory of a potential beneficial use on economic grounds. To rely on this basis, the state must demonstrate that attaining the use is infeasible because the controls necessary to attain the use "would result in substantial and widespread economic and social impact."²²

The states can take this action only for potential uses. These are uses that do not meet the definition of an "existing use". Existing uses are those uses actually attained in the water body on or after November 28, 1975.²³

Attachment

²⁰ See *id.* § 130.2(g). A load allocation is the portion of the receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources.

²³ *Id.* § 131.3(e).

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¹⁹ See 40 C.F.R. § 130.2(g). A wasteload allocation is the portion of the receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution.

²¹ See *id.* § 130.2(i). A TMDL is the sum of the individual wasteload and load allocations.

²² See id. § 131.10(g)(6).

State of California

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: Regional Water Board Executive Officers

Regional Water Board Attorneys

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Subject:

From : :

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GUIDANCE ON CONSIDERATION OF ECONOMICS IN THE ADOPTION OF WATER QUALITY OBJECTIVES

ISSUE

Date:

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What is required of a Regional Water Quality Control Board (Regional Water Board) in order to fulfill its statutory duty to consider economics when adopting water quality objectives in water quality control plans or in waste discharge requirements?

CONCLUSION

A Regional Water Board is under an affirmative duty to consider economics when adopting water quality objectives in water quality control plans or, in the absence of applicable objectives in a water quality control plan, when adopting objectives on a case-by-case basis in waste discharge requirements. To fulfill this duty, the Regional Water Board should assess the costs of the proposed adoption of a water quality objective. This assessment will generally require the Regional Water Board to review available information to determine the following: (1) whether the objective is currently being attained; (2) what methods are available to achieve compliance with the objective, if it is not currently being attained; and (3) the costs of those methods. The Regional Water Board should also consider any information on economic impacts provided by the regulated community and other interested parties.

If the potential economic impacts of the proposed adoption of a water quality objective appear to be significant, the Regional Water Board must articulate why adoption of the objective is necessary to assure the reasonable protection of beneficial uses of state waters, despite the potential adverse economic consequences. For water quality control plan amendments, this Regional Water Board Executive Officers et al.

discussion could be included in the staff report or resolution for the proposed amendment. For waste discharge requirements, the rationale must be reflected in the findings.

DISCUSSION

A. Legal Analysis

1. Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, Water Code Section 13000 et seq. (Porter-Cologne Act or Act), the State Water Resources Control Board (State Water Board) and the Regional Water Boards are the principal state agencies charged with responsibility for water quality protection. The State and Regional Water Boards (Boards) exercise this responsibility primarily through the adoption of water quality control plans and the regulation of waste discharges which could affect water quality. See Water Code Secs. 13170, 13170.2, 13240, 13263, 13377, 13391.

Water quality control plans contain water quality objectives, as well as beneficial uses for the waters designated for protection and a program of implementation to achieve the objectives. Id. Sec. 13050(j). In the absence of applicable water quality objectives in a water quality control plan, the Regional Water Board may also develop objectives on a case-bycase basis in waste discharge requirements. See id. Sec. 13263(a).¹

When adopting objectives either in a water quality control plan or in waste discharge requirements, the Boards are required to exercise their judgment to "ensure the reasonable protection of beneficial uses and the prevention of nuisance". Id. Secs. 13241, 13263; see id. Sec. 13170. The Porter-Cologne Act recognizes that water quality may change to some degree without

1 The focus of this memorandum is limited to an analysis of the Boards' obligation to consider economics when adopting water quality objectives either in water quality control plans or, on a case-by-case basis, in waste discharge requirements. This memorandum does not discuss the extent to which the Boards' are required to consider the factors specified in Water Code Section 13241 in other situations. Specifically, this memorandum does not discuss the applicability of Section 13241 to the development of numeric effluent limitations, implementing narrative objectives contained in a water quality control plan. Further guidance on the latter topic will be developed at a later date.

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causing an unreasonable effect on beneficial uses. Id. The Act, therefore, identifies factors which the Boards must consider in determining what level of protection is reasonable. Id.² These factors include economic considerations. Id.³

The legislative history of the Porter-Cologne Act indicates that "[C]onservatism in the direction of high quality should guide the establishment of objectives both in water quality control plans and in waste discharge requirements". Recommended Changes in Water Quality Control, Final Report of the Study Panel to the [State Water Board], Study Project--Water Quality Control Program, p. 15 (1969) (Final Report). Objectives should "be tailored on the high quality side of needs of the present and future beneficial uses". Id. at 12. Nevertheless, objectives must be reasonable, and economic considerations are a necessary part of the determination of reasonableness. "The regional boards must balance environmental characteristics, past, present and future beneficial uses, and economic considerations (both the cost of providing treatment facilities and the economic value of development) in establishing plans to achieve the highest water quality which is reasonable." Id. at 13.

2. Senate Bill 919

The Boards are under an additional mandate to consider economics when adopting objectives as a result of the recent enactment of Senate Bill 919. 1993 Cal. Stats., Chap. 1131, Sec. 8, to be codified at Pub. Res. Code, Div. 13, Ch. 4.5, Art. 4. The legislation, which is

Other factors which must be considered include:

- (a) Past, present, and probable future beneficial uses of water;
- (b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto;
- (c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area:
- (d) The need for developing housing within the region;
- (e) The need to develop and use recycled water.

3 See also Water Code Section 13000 which mandates that activities and factors which may affect water quality "shall be regulated to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, <u>economic</u> and social, tangible and intangible" (emphasis added).

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> effective January 1, 1994, amended the California Environmental Quality Control Act, Public Resources Code Section 21000 et seq. (CEQA), to require that, whenever the Boards adopt rules requiring the installation of pollution control equipment or establishing a performance standard or treatment requirement, the Boards must conduct an environmental analysis of the reasonably foreseeable methods of compliance. This analysis must take into account a reasonable range of factors, including economics. For the reasons explained above, the latter requirement is duplicative of existing requirements under the Porter-Cologne Act regarding consideration of economics.

B. Recommendation

The meaning of the mandate to "consider economics" in the Porter-Cologne Act is not entirely clear. It is clear that the Porter-Cologne Act does not specify the weight which must be given to economic considerations. Consequently, the Boards may adopt water quality objectives even though adoption may result in significant economic consequences to the regulated community. The Porter-Cologne Act also does not require the Boards to do a formal cost-benefit analysis.

The Porter-Cologne Act does impose an affirmative duty on the Boards to consider economics when adopting water quality objectives. The Boards probably cannot fulfill this duty simply by responding to economic information supplied by the regulated community. Rather, the Boards should assess the costs of adoption of a proposed water quality objective. This assessment will normally entail three steps. First, the Boards should review any available information on receiving water and effluent quality to determine whether the proposed objective is currently being attained or can be attained. If the proposed objective is not currently attainable, the Boards should identify the methods which are presently available for complying with the objective. Finally, the Boards should consider any available information on the costs associated with the treatment technologies or other methods which they have identified for complying with a proposed objective.⁴

4 See, for example, <u>Managing Wastewater In Coastal Urban Areas</u>, National Research Council (1993). This text provides data on ten technically feasible wastewater treatment technologies, which can be used to make comparative. judgments about performance and to estimate the approximate costs of meeting various effluent discharge standards, including standards for toxic organics and metals. Regional Water Board Executive Officers et al. -5

In making their assessment of the cost impacts of a proposed objective, the Boards are not required to engage in speculation. Rather, the Boards should review currently available information. In addition, the Boards should consider, and respond on the record, to any information provided by dischargers or other interested persons regarding the potential cost implications of adoption of a proposed objective.

If the economic consequences of adoption of a proposed water quality objective are potentially significant, the Boards must articulate why adoption of the objective is necessary to ensure reasonable protection of beneficial uses. If the objective is later subjected to a legal challenge, the courts will consider whether the Boards adequately considered all relevant factors and demonstrated a rational connection between those factors, the choice made, and the purposes of the Porter-Cologne Act. See <u>California Hotel &</u> <u>Motel Assn.</u> v. <u>Industrial Welfare Com.</u>, 25 Cal.3d 200, 212, 157 Cal.Rptr. 840, 599 P.2d 31 (1979).

Reasons for adopting a water quality objective, despite adverse economic consequences, could include the sensitivity of the receiving waterbody and its beneficial uses, the toxicity of the regulated substance, the reliability of economic or attainability data provided by the regulated community, public health implications of adopting a less stringent objective, or other appropriate factors. These factors may also include the legislative directive that a "margin of safety [] be maintained to assure the protection of all beneficial uses." Final Report, p. 15 and App. A, p. 59.

If objectives are proposed for surface waters and adverse economic consequences stemming from adoption of the objectives could be avoided only if beneficial uses were downgraded, the Boards should address whether dedesignation would be feasible under the applicable requirements of the Clean Water Act and implementing regulations. See 40 C.F.R. Sec. 131.10. Dedesignation is feasible only for potential, rather than existing, uses. See id. Sec. 131.10(g). If dedesignation of potential beneficial uses is infeasible, the Boards should explain why, e.g., that there is a lack of data supporting dedesignation.⁵

5 It should also be noted that, even if dedesignation of potential beneficial uses is feasible, in the great majority of cases it will not have any significant effect on the selection of a proposed objective. This is so because the proposed objective will be necessary to protect existing beneficial uses, which cannot be dedesignated.

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The State or Regional Water Board's rationale for determining that adoption of a proposed objective is necessary to protect water quality, despite adverse economic consequences, must be discernible from the record. This reasoning could be included in the staff report or in the resolution adopting a proposed water quality control plan amendment. When objectives are established on a case-bycase basis in waste discharge requirements, the rationale must be included in the findings.

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