R2 TRASH

trashed waterways are acceptable repositories for rubbish and possibly other discharges. We urge the Board to use the 303(d) process, as required, to ensure that Bay Area waterways are cleaned up.

BayKeeper and others submitted photographs and video footage into the record documenting that at least six Bay Area creeks are full of trash, violating the Regional Board's water quality standard for this pollutant. According to the Regional Board's recommended 303(d) list revisions, Regional Board staff report visiting others waterways that are also seriously trashed. The Report agrees that degradation is serious, noting "There are excessive levels of trash in virtually all urbanized waterways of the San Francisco Bay Region." (Proposed Revisions to Section 303(d) List and Priorities for Development of Total Maximum Daily Loads (TMDLs) for the San Francisco Bay Region, SFRWQCB, November 14, 2001 at 14 (hereafter "Regional Board Submission")). Regional Board staff also agree that the Regional Board's own standard for trash is being violated, noting "Observations, photo and video documentations, and Coastal Cleanup Day data together provide a weight of evidence that not enough is currently being done to comply with the Basin Plan's Discharge Prohibition No. 7 (Table 4-1 of the Basin Plan) (ibid). In spite of this evidence, however, the Regional Board Submission recommends not listing *any* Bay Area waterways for trash because the types of trash in Bay Area creeks have not been quantified, because Board staff were not presented with specific harmful impacts associated with trash and because Board staff believe that cities may not yet have implemented required cleanup programs.

The State Board's draft 303(d) List does not provide any analysis of this issue but simply proposes to list "Urban Creeks, Lakes and Shorelines" on the Watch List for trash (draft 303(d) List, Volume 1, at Watch List-4). Note that no reference to this proposal is made anywhere in Volume 2 of the report.

The arguments made by the Regional Board and apparently accepted by the State Board defy law and commonsense. The Regional Board Submission acknowledges that trash currently affects numerous beneficial uses including aquatic habitat, water contact recreation, non-contact water recreation and others (Regional Board Submission at 13) and current levels of trash do not comply with Basin Plan standards. Photographs submitted by BayKeeper and others clearly show that specific garbage-strewn creeks do not support numerous beneficial uses, including contact and non-contact recreation, and wildlife habitat. We note that the presence of garbage in our creeks is also likely to exacerbate other water quality problems as community members perceive trashed waterways to be an acceptable place for the disposal of waste and wastewater. If the Regional Board's water quality standard for trash is being violated for any waterway, then that waterway must be listed on the 303(d) List.

The Regional Board Submission's suggestion that some types of trash are more harmful than others is a distraction (Regional Board Submission at 15). We are surprised that the Regional Board staff would suggest that some types of trash in our creeks is somehow acceptable or that it complies with water quality standards. While an embedded shopping cart may provide needed habitat diversity, this is an unfortunate symptom of other water quality impacts such as channelization, straightening and loss of nearby vegetation and

canopy. We are alarmed that the Boards would suggest delaying regulatory action so that trash impacts can be "studied."

The Regional Board Submission also spuriously suggests that 303(d) listing is not required for Bay Area creeks where "best available technology" has not been implemented or has "yet to be realized"(Regional Board Submission at 3,4, 14). As we explained in our comments to the Regional Board, this excuse for delay is a red herring for several reasons: 1) the technology based standards were required to adopted by 1976 and have generally been implemented around the Bay; 2) If these technology based standards have not been implemented that is precisely a failure of such requirements to ensure water quality standards, thereby triggering Section 303(d)(1)(a); and 3) Bay Area local governments have been required to implement BMPs to remove trash under municipal stormwater permits for over a decade without much sign of compliance.

BayKeeper urges the State Board to carefully review the evidence submitted to the Regional Board documenting several creeks which look like landfills. At a minimum, the State Board should place the Guadelupe River, Guadelupe Creek, Coyote Creek, Silver Creek, San Leandro Creek, Glen Echo Creek, Portions of San Pablo Creek, Wildcat Creek and Arroyo Las Positas on the 303(d) list for obvious impairment by trash. Based on the Regional Board's comments and analysis, it appears that all Bay Area tributaries should be so listed as well.

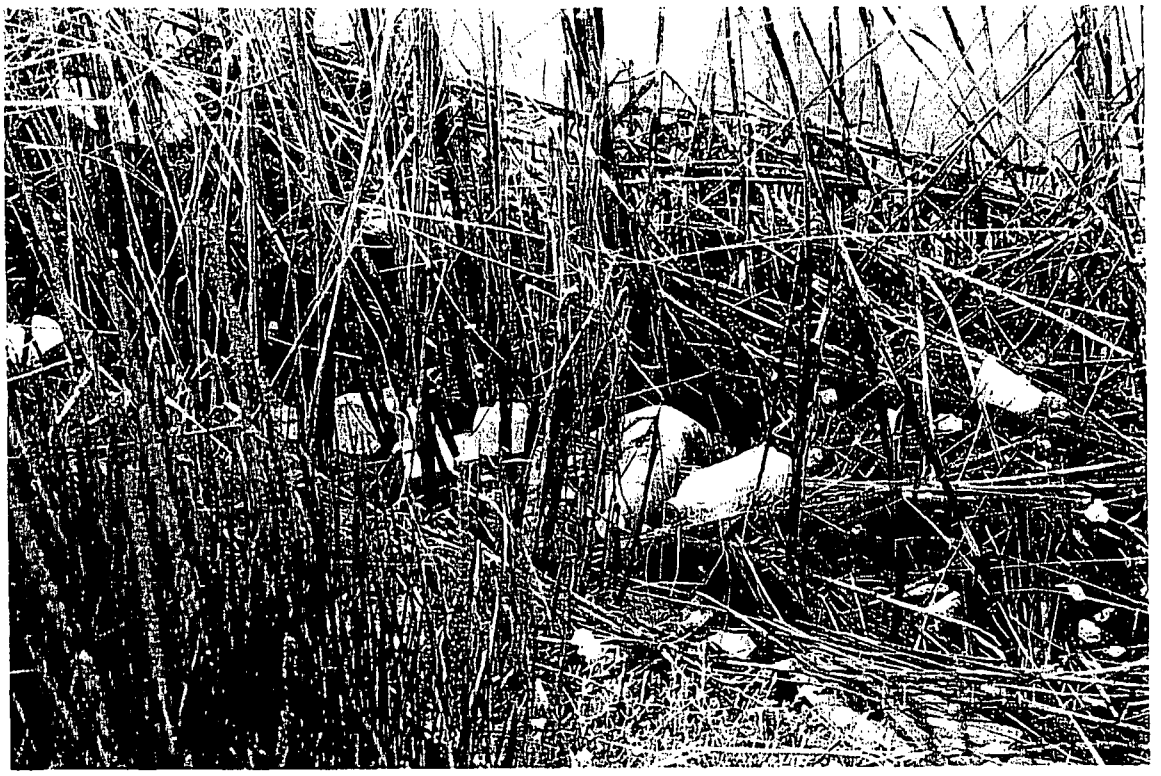
The draft 303(d) list excludes numerous Bay Area creeks which are impaired by sediment.

Several studies were submitted to the Regional Board showing evidence of excessive sedimentation and erosion in Bay Area creeks. Sedimentation and erosion processes are known to destroy fish habitat and are recognized by the Board to threaten numerous waterways around the Bay Area: "All larger streams in the San Francisco Bay Region, without exception, have sediment-related impacts such a down-cutting, bank erosion and sediment delivery from the hillslopes due to 150 years of intensive urban and agricultural land use." (Regional Board Submission at 11). Water Board staff further acknowledges that several specific streams, for which evidence was submitted, are heavily impacted. The Draft 303(d) List Report notes that "dramatic changes due to erosion and sedimentation have been documented in the Novato Creek watershed." (Report at 22). Similarly, for Pilarcitos Creek, Board staff concur that "widespread occurrence of a large amount of fine sediment in and on the streambed reduces spawning success and juvenile rearing." (Regional Board Submission at 23). Similar evidence was presented for several other Bay Area creeks.

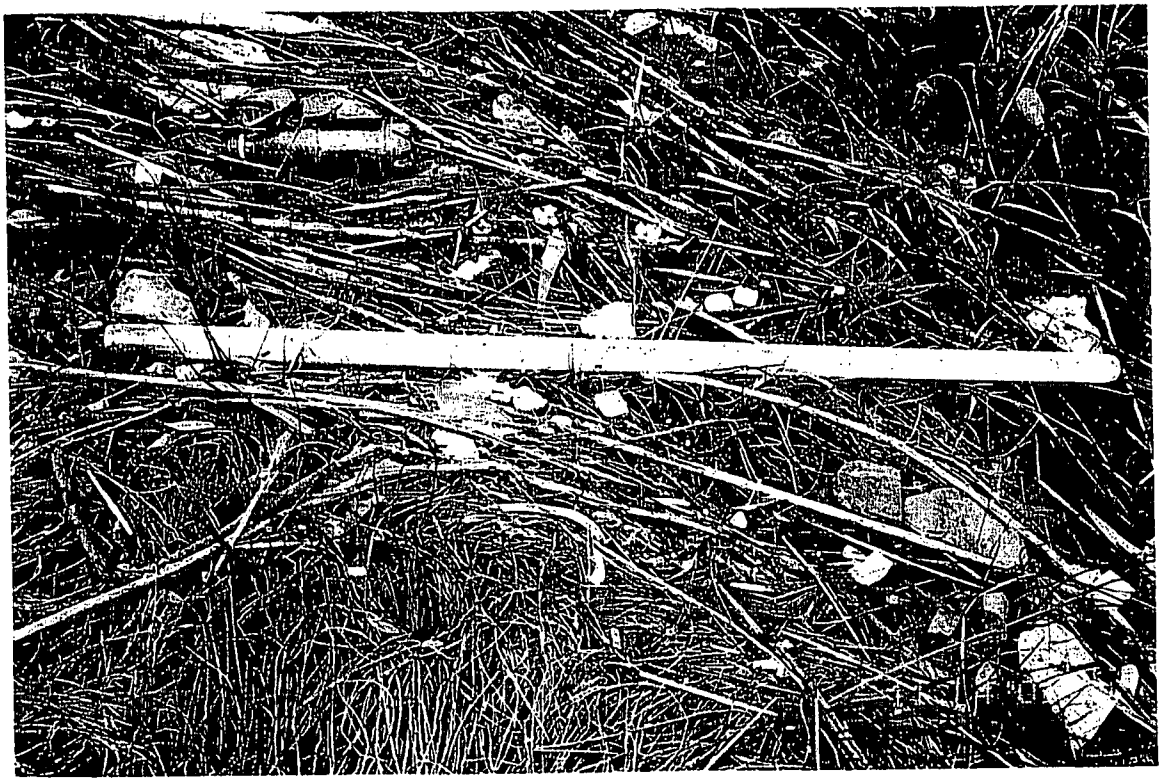
Here again, the State Board simply proposes placing these waterbodies on the Watch List without any description or rationale. The Regional Board suggested a variety of reasons for not listing these creeks, which are considered and rebutted in our comments to the Regional Board. We believe that the record supports a decision to list Novato Creek and Pilarcitos Creek, among others, on the 303(d) list and request the Board to so list them.

R2-Trash

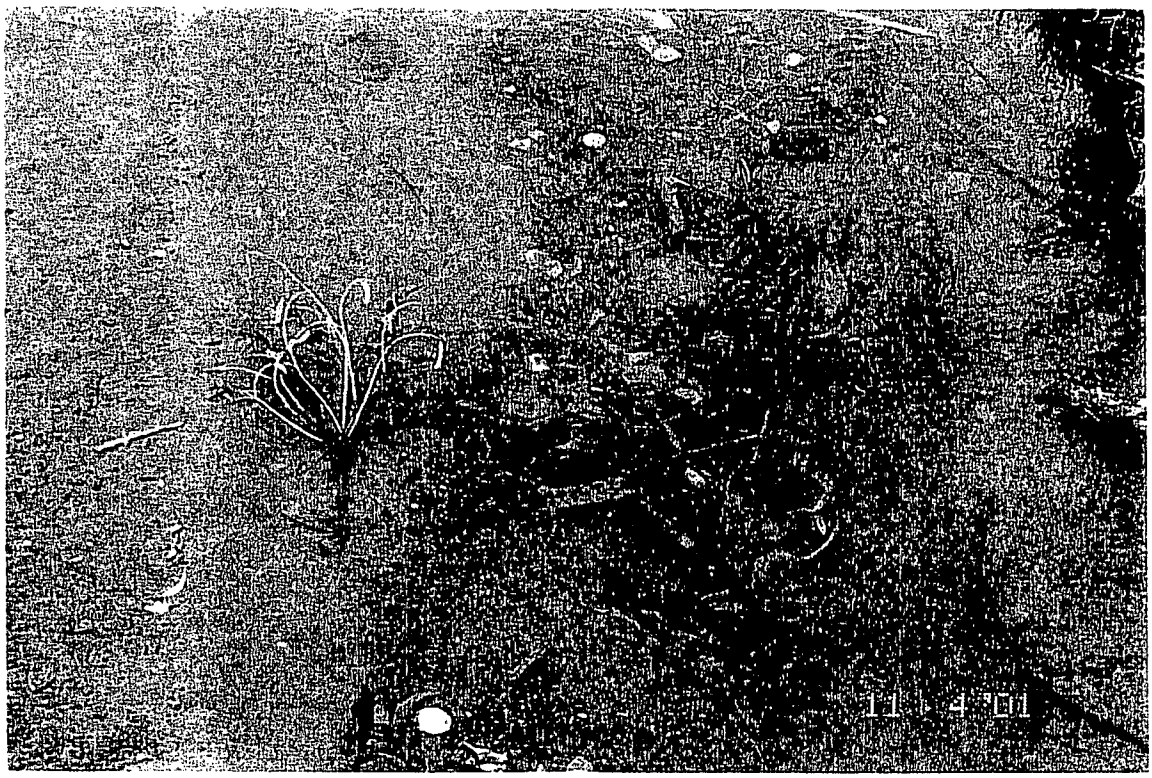
San Leandro Creek- Hegenberger Road – Oakland
April 2001



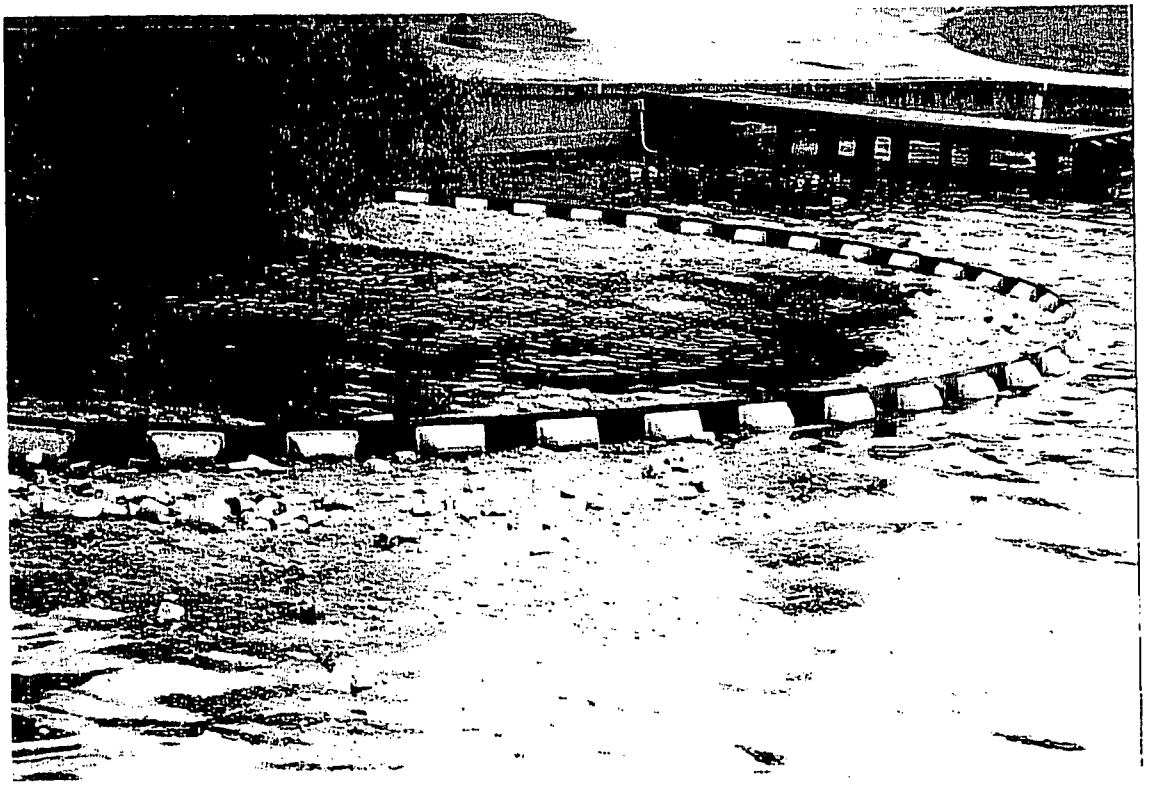
San Leandro Creek – 98th Avenue – Oakland
April 2001



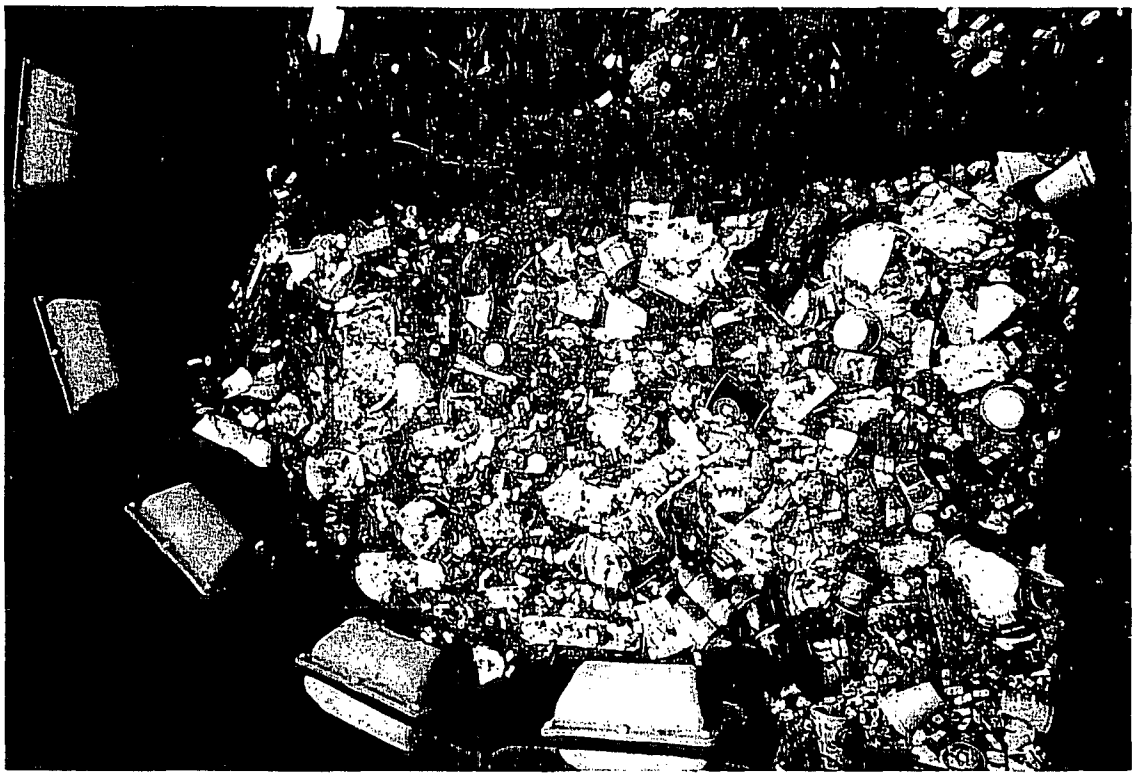
San Leandro Creek – 98th Avenue – Oakland
April 2001

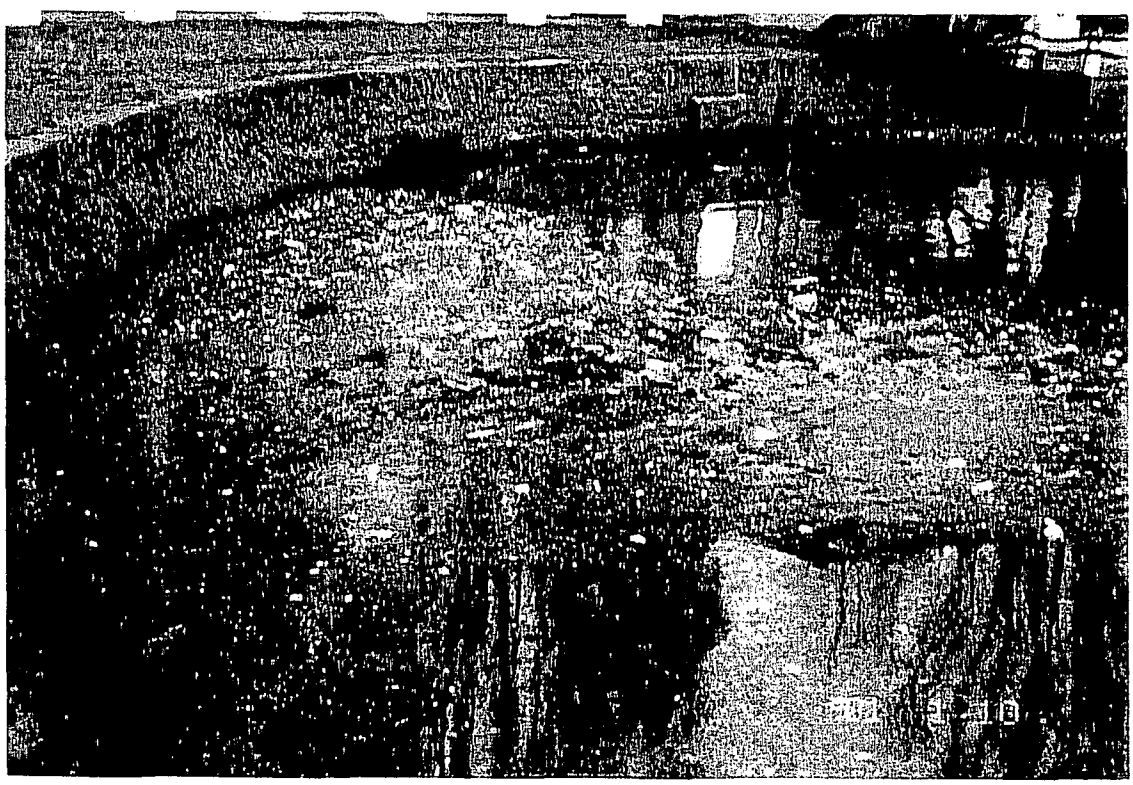


Lake Merritt – Oakland
January 2001



Lake Merritt – Oakland
January 2001





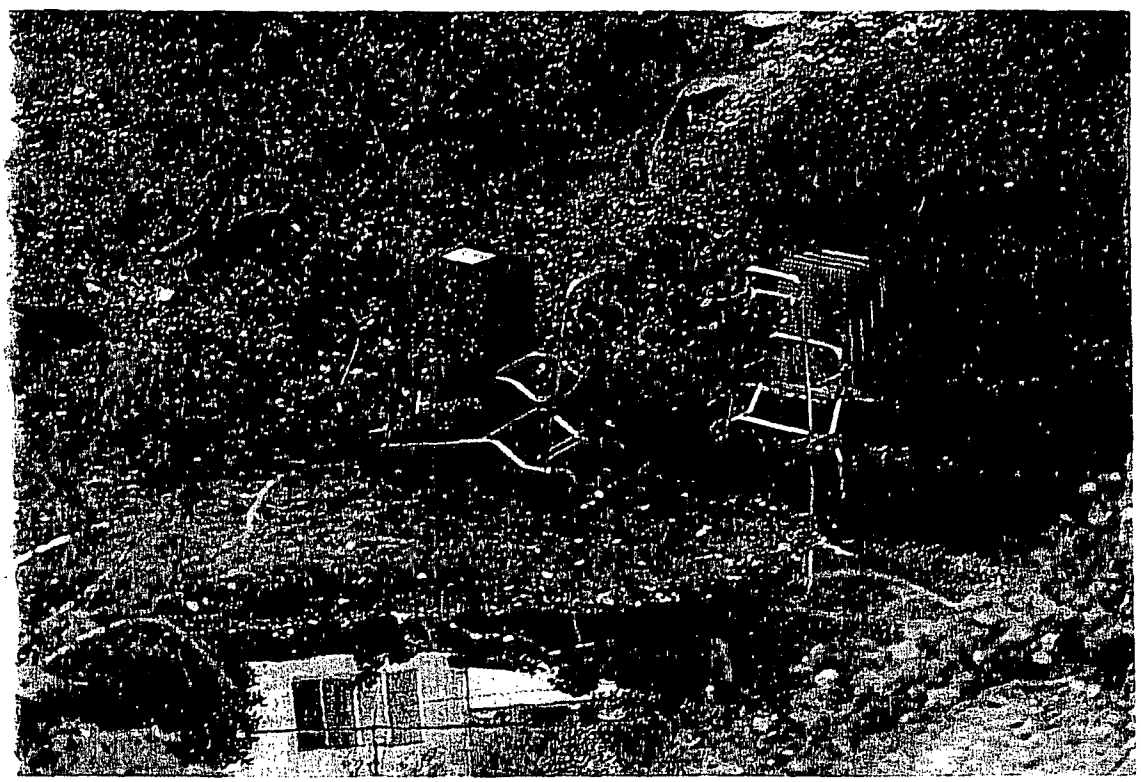
Lake Merritt – Oakland
November 1999

Damon Slough – Oakland
January 1997

Damon Slough – Oakland
November 1999

Damon Slough – Oakland
March 1999

Glen Echo Creek – Oakland
March 1997



R2
TRASH

March 22, 2001
Guadalupe River
Upsteam of Santa Clara St.
looking at Westerly Cr. Bank

March 22, 2001
Guadalupe River
Btwn. Woz Way & San Carlos St.
looking upstream, Easterly Bank

March 22, 2001
Guadalupe River
Downsteam of Woz Way, looking downstream, Easterly Cr. Bank

March 22, 2001
Guadalupe River
Downstream Woz Way, looking downsteam, close-up

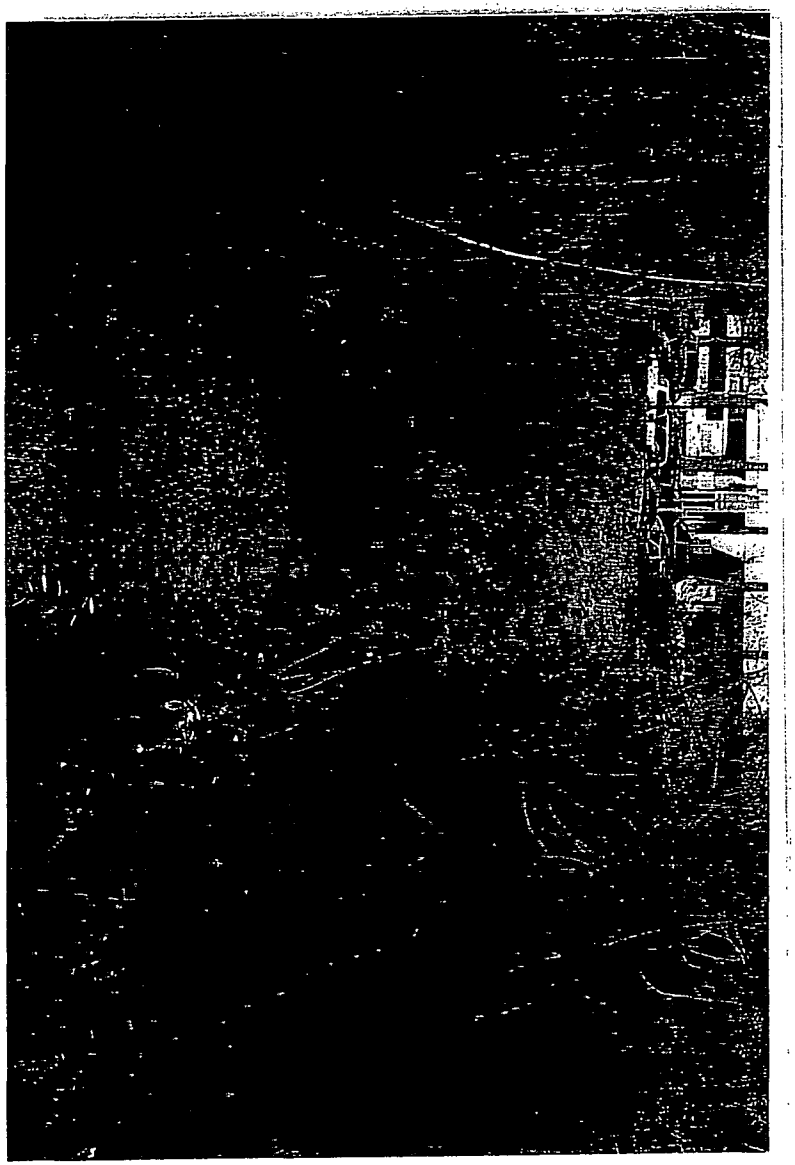
March 22, 2001
Guadalupe River
Downstream of Woz Way, looking
downsteam, Easterly Bank,

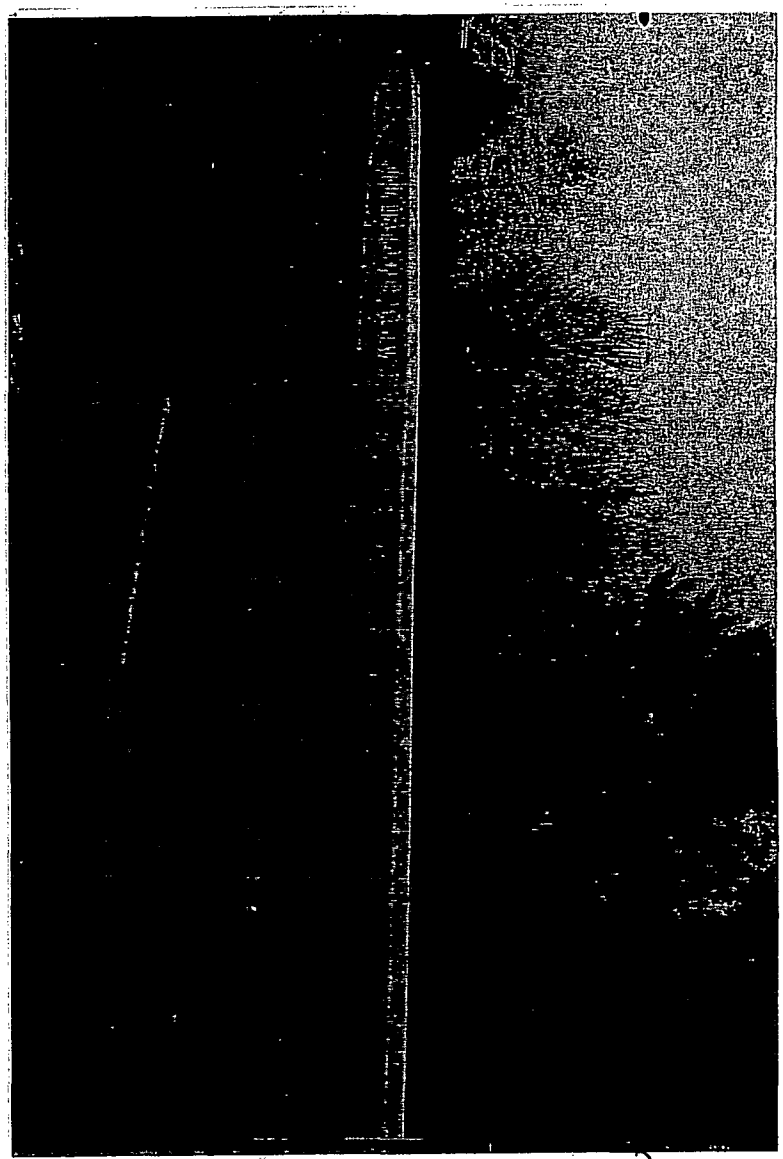
March 22, 2001
Guadalupe River
Alma Street Bridge, looking
upstream

March 22, 2001
Guadalupe River
Alma Street Bridge, looking upstream, close-up

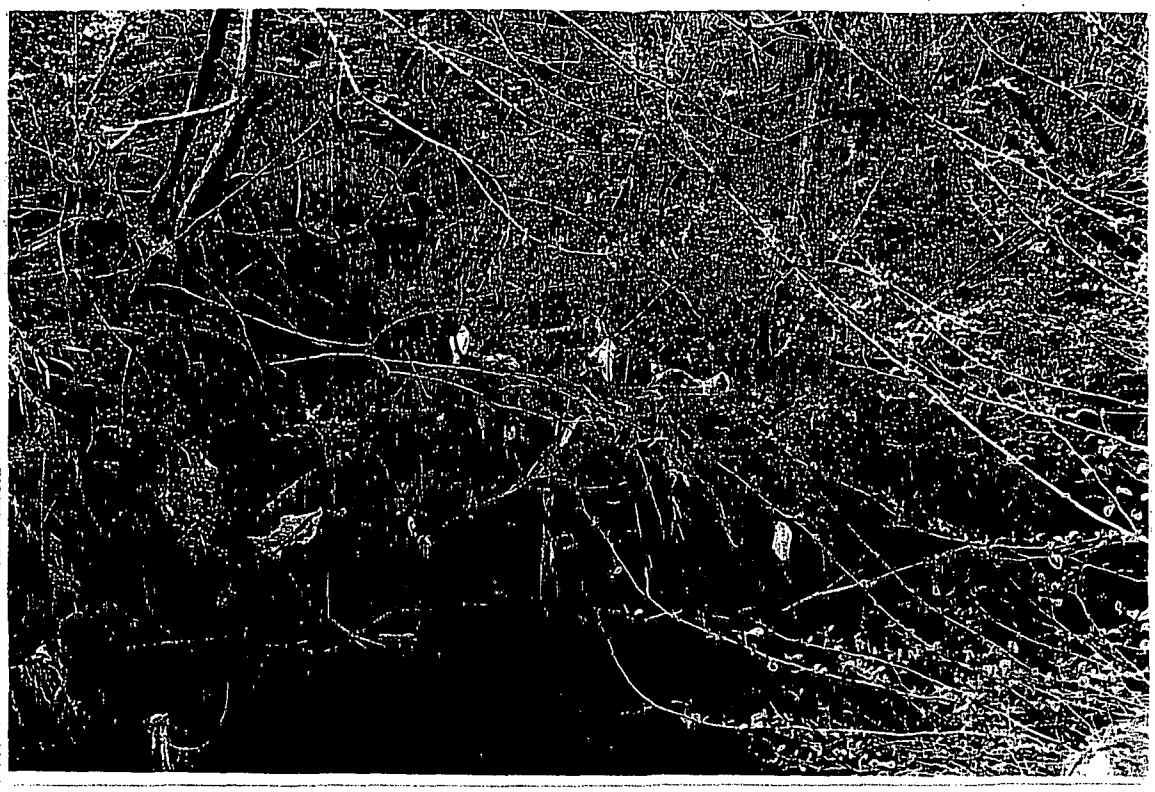
MARCH 22, 2001
GUADALUPE RIVER
LOOKING UPSTREAM FROM
ALMA STREET BRIDGE CROSSING

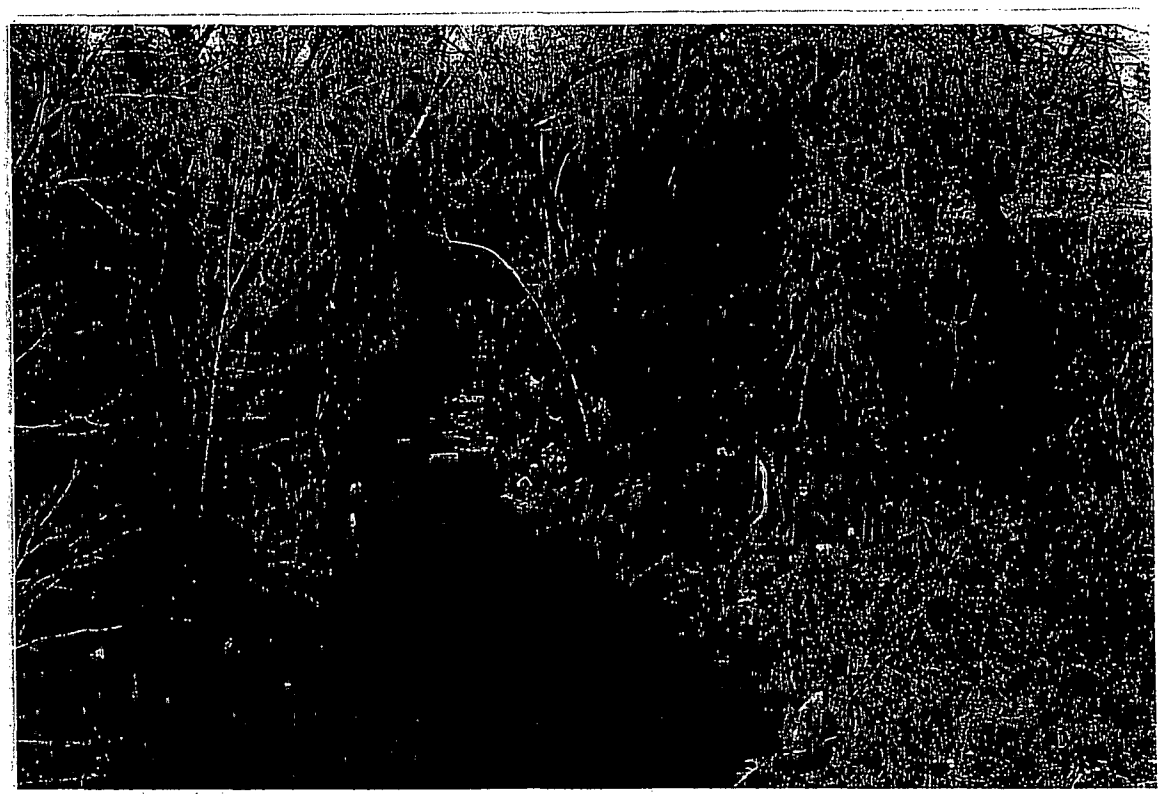
GUADALUPE RIVER
ALMADEN EXPRESSWAY TO
TAYLOR STREET BRIDGE
MARCH 2001

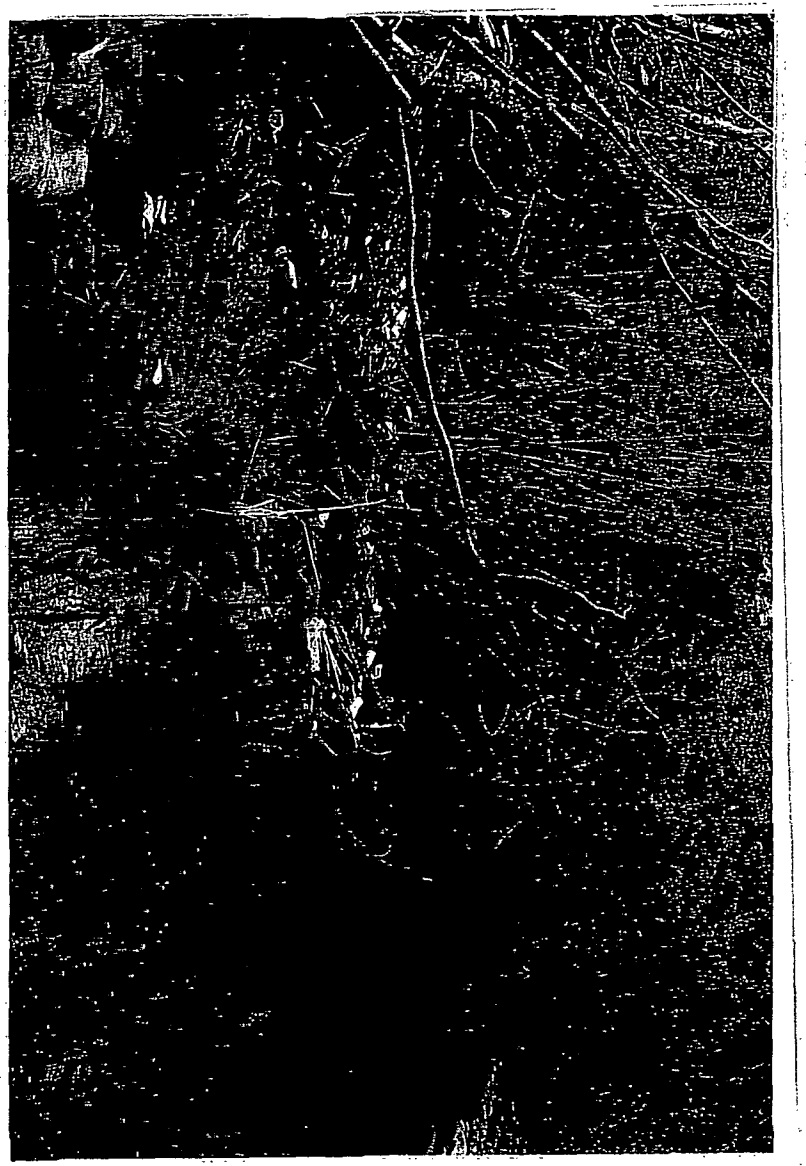


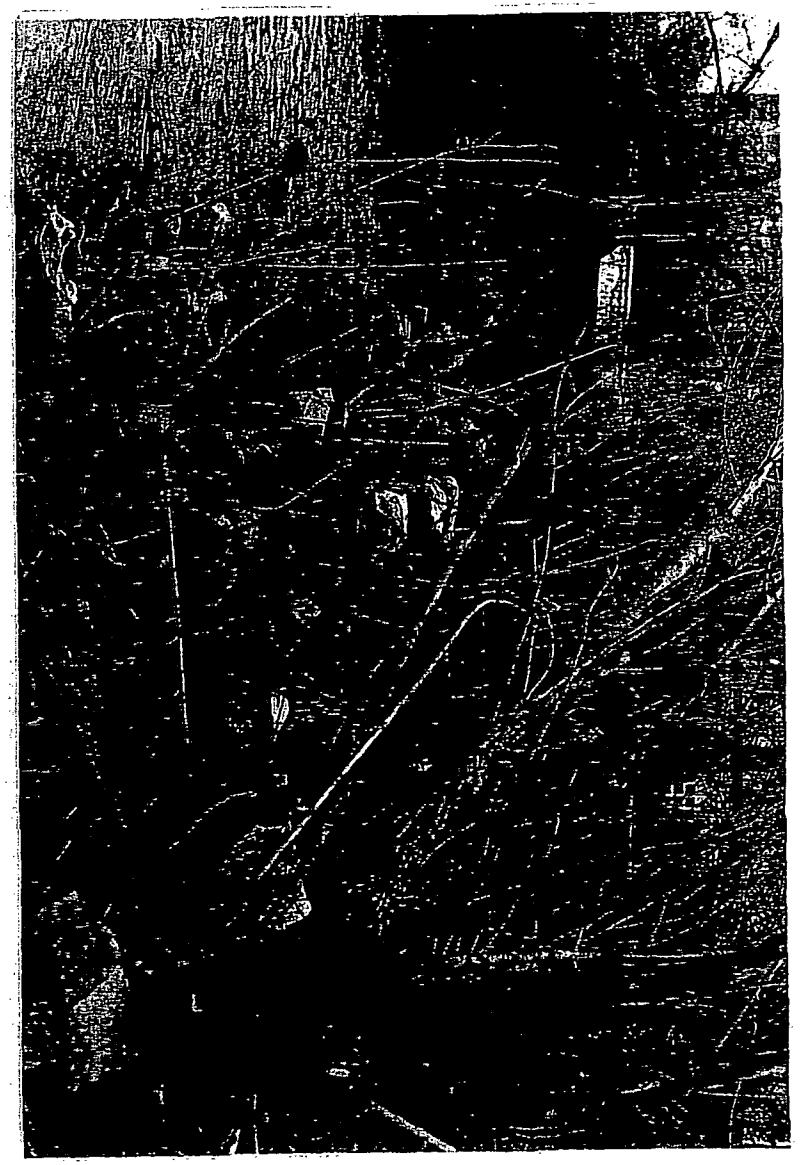


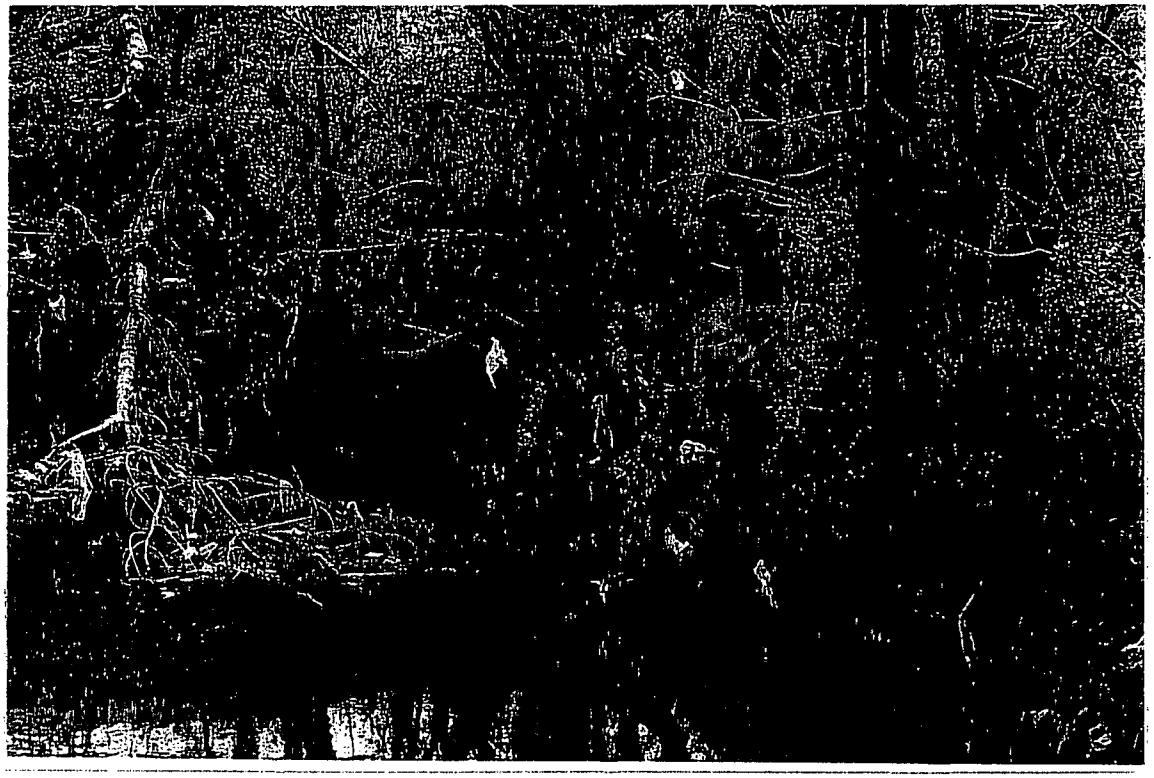
R2
TRASH

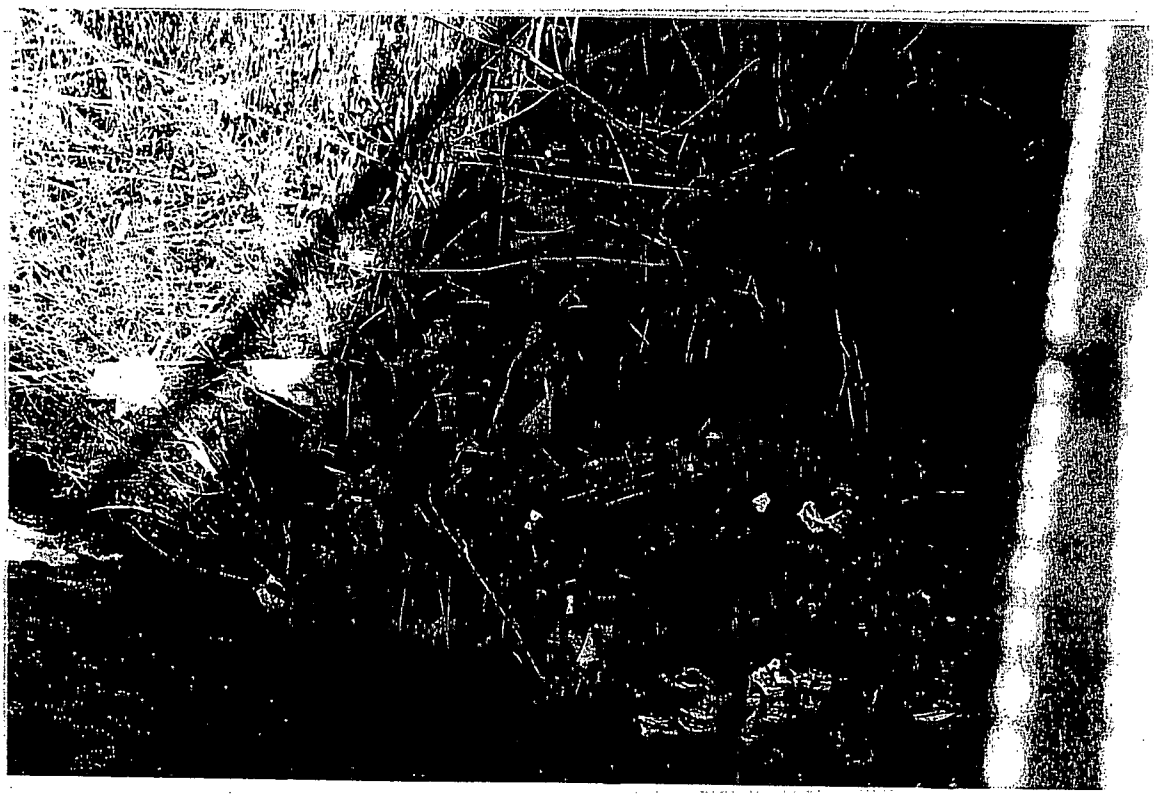


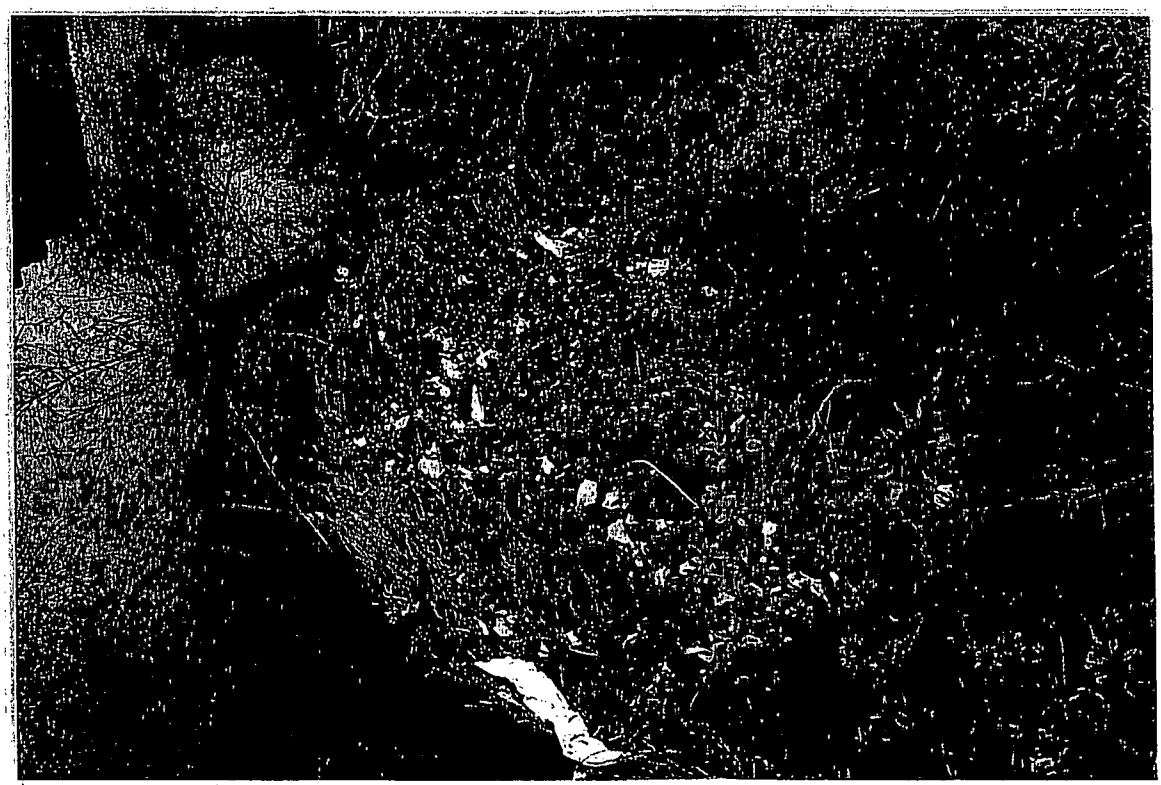


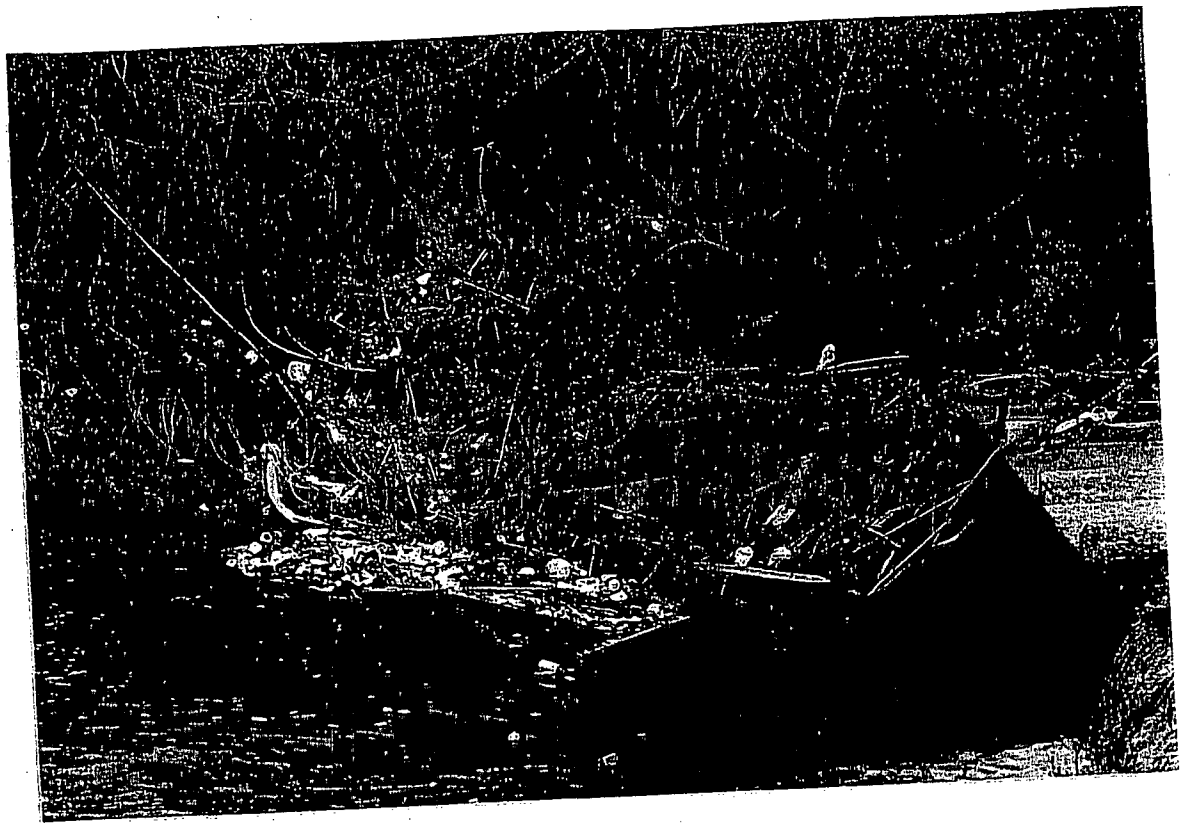


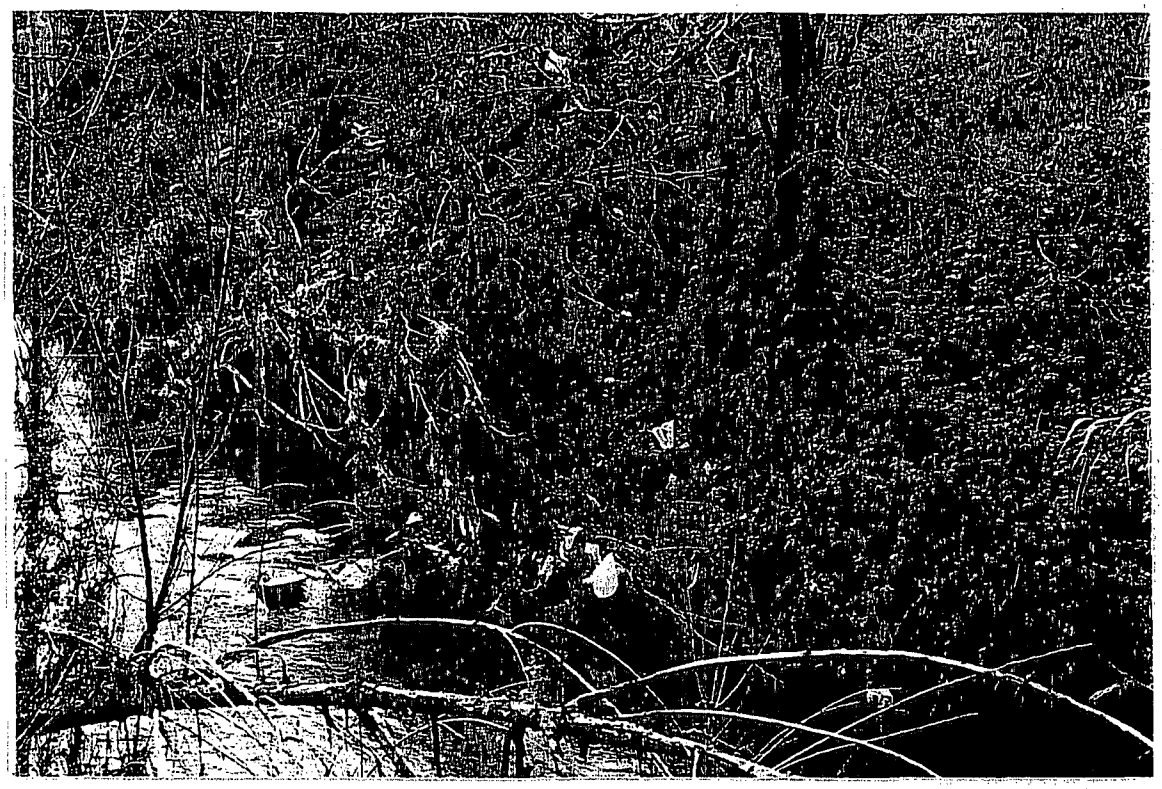


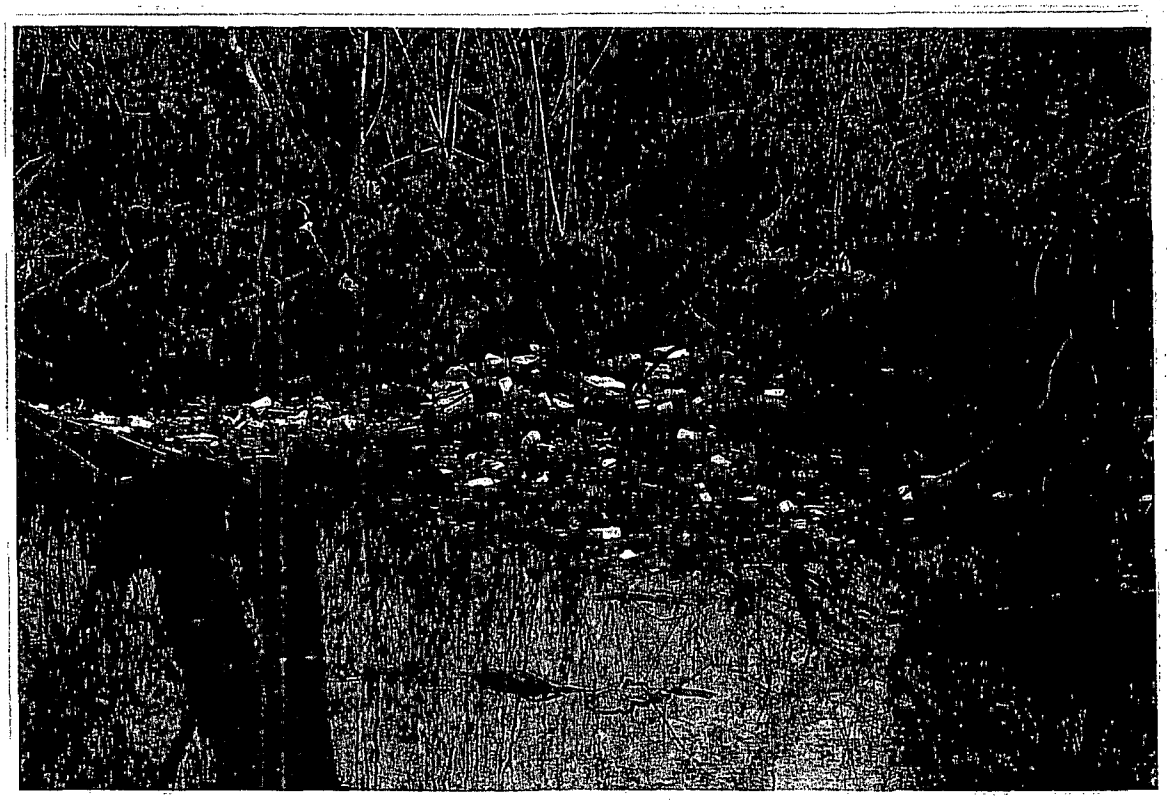


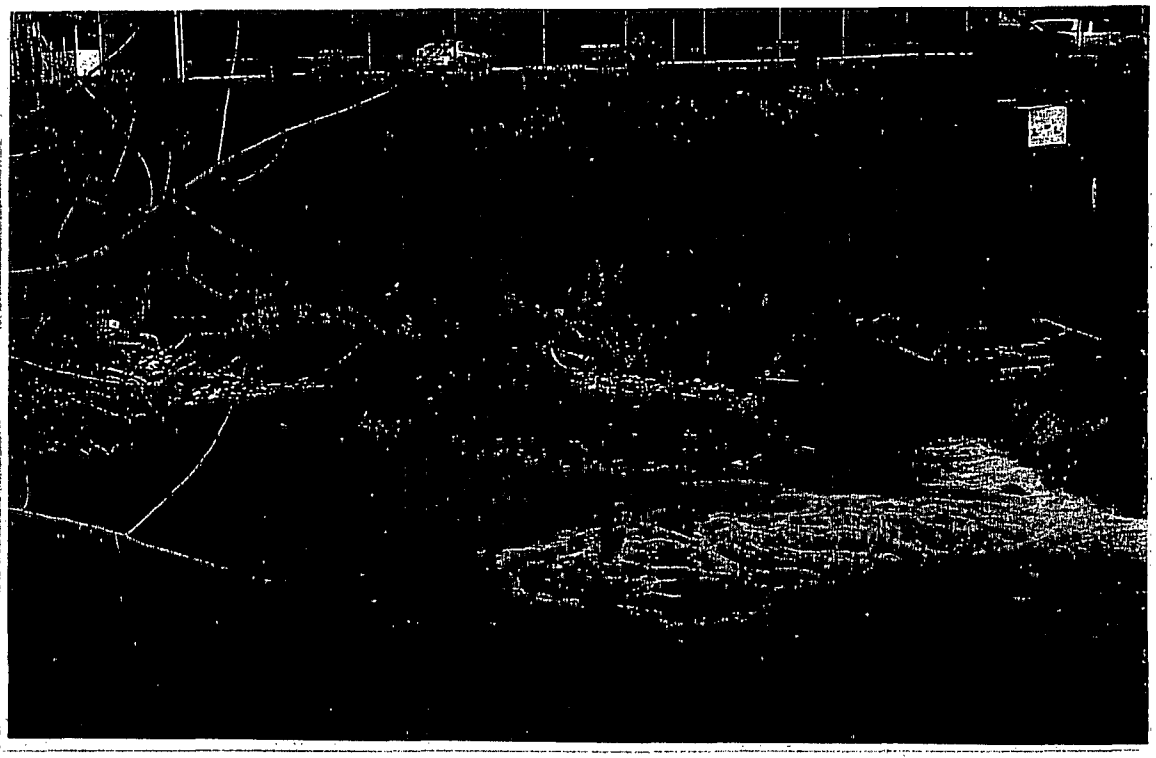


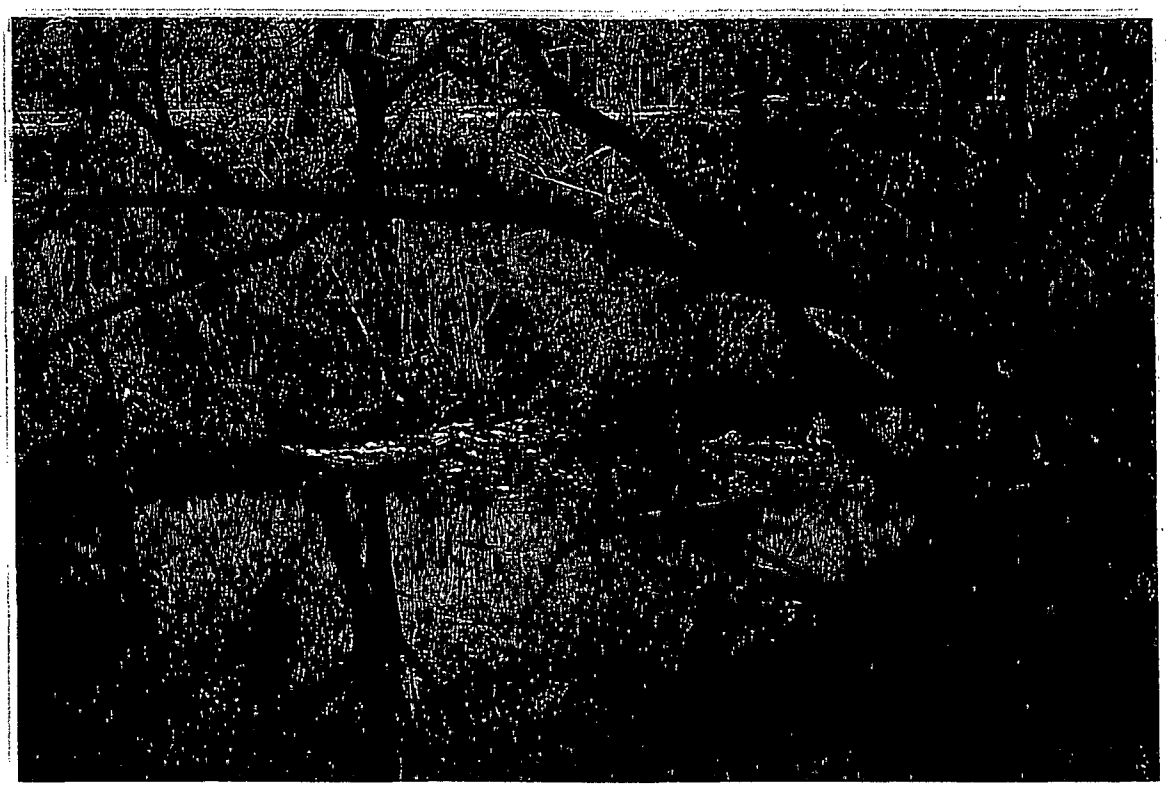












SMW

R2 TRASH

1433 Hampel St.
Oakland, CA 94602
June 1, 2001

Steve Moore
San Francisco Bay Regional Water Quality Control Board (RWQCB)
1515 Clay St., Ste. 1400
Oakland, CA 94612

Re: Lake Merritt, Oakland, CA

Dear Mr. Moore:

I am writing in response to the March 14, 2001, notice from the State Water Resources Control Board s (SWRCB) soliciting comments on the upcoming review by the SWRCB and RWQCBs of the list established under section 303(d) of the Clean Water Act (CWA) of impaired surface waterbodies.

I have for the past seven years served on a volunteer basis on the Board of Directors of the Lake Merritt Institute (LMI), a nonprofit organization whose purpose is the preservation and enhancement of the lakes natural resource values. I am also an active member of the Golden Gate Audubon Society (GGAS), which has long taken a strong interest in the wildlife, particularly migratory waterfowl, habitat that the lake supports.

As you know in May of 1999 the Environmental Protection Agency (EPA) issued a final decision that, among other things, added Lake Merritt, a tidally influenced estuarine waterbody in Oakland, CA, to the state's 303(d) list. The EPA found that the lake was in a condition of non-achievement with respect to applicable water quality standards for two pollutant categories: 1) floatables (trash and debris) and 2) low dissolved oxygen. The purpose of this letter is to provide you with information on the water quality status of the lake that has become available since the RWQCB's last review of impaired waterbodies under section 303(d). I will present the information I have been able to compile by pollutant category, beginning with the two categories that were the basis of the EPA's action in 1999 to add the lake to the 303(d) list.

1. **Floatable (Trash and Debris) Pollution.** For a number of years the City of Oakland has contracted with the LMI to perform a number of water quality related tasks with regard to the lake, including removal from the lake and its shorelines of floating trash and debris, the vast preponderance of which is discharged into the lake from approximately 60 outfalls that are part of the City's storm drain system. Enclosed herewith is a table, entitled "Pounds of Trash Removed From the Lake By Lake Merritt Institute Volunteers," that reveals the massive quantities of floatable pollution that has been discharged into the lake over the last 3 and 1/3 years (1998-2001). As the EPA found in

1999, this pollution continues to have a significant adverse effect on the beneficial uses of the lake (e.g., noncontact water recreation; wildlife habitat) identified in the SFB Region Basin Plan. Thus, this information conclusively establishes that Lake Merritt continues to fail to meet the S.F. Bay Region Basin Plan water quality standard for this pollutant category.

2. **Dissolved Oxygen.** During the 1998-99 school year the Oakland High School Environmental Science Academy performed dissolved oxygen tests on water samples taken from the lake. The results of this testing, as shown on the enclosed table, reveal that the lake continues for significant periods of time to suffer from levels of dissolved oxygen below the Basin Plan standard of 5 ppm.

3. **Oil/Hydrocarbon Pollution.** In letters dated May 4 and December 3, 1998, to the SWRCB and the EPA, respectively, the LMI requested that Lake Merritt be listed as impaired with respect to the additional pollutant category of oil/hydrocarbon pollution. The LMI summarized then existing evidence of this category of pollution in its December 3 letter to the EPA (copy enclosed). In its response to the LMI's comment (no. 17.2) issued at the time of its final decision in May, 1999, the EPA stated that the information the LMI had provided was untimely with respect to the then pending listing proceeding but that EPA would "forward the [LMI's] information...to the State for consideration in the next listing cycle. EPA believes the State should consider information of this type in evaluating potential exceedences of narrative objectives such as the objective addressing oil discharges."

   Recent information, as shown on the enclosed table, reveals that Lake Merritt continues to experience discharges of oil (through the City's storm drain system) at the rate of "one every three months." This evidence when considered together with the evidence the LMI submitted during the previous listing cycle provides ample justification for the addition of oil pollution as a pollutant category for which the listing of Lake Merritt is warranted.

4. **Contaminated Sediments.** In its letters to the SWRCB and the EPA the LMI cited chemical test results that revealed the presence in Lake Merritt sediments of heavy metals and other substances at concentrations that have been shown in laboratory testing to be toxic to benthic and other aquatic organisms. In response to the LMI's request for the listing of the lake for this pollutant category, the EPA stated that "evidence of exceedences of ERL or ERM levels must be accompanied by independent evidence of benthic community effects before such exceedences will warrant a listing of a waterbody." Furthermore, in response a comment (no. 17.3) by the LMI, the EPA stated that it "will also urge the SFRWQCB to contact the [LMI] to discuss the possibility of conducting [bioassay] studies with respect to Lake Merritt." The LMI remains interested in a joint undertaking to perform the

referenced studies and would be interested in receiving whatever indications might be forthcoming from the RWQCB of a mutual interest.

In conclusion, I believe the evidence I have submitted under cover of this letter warrants both 1) the continued listing of Lake Merritt for the two pollutant categories for which it is currently listed, and 2) the addition of oil pollution as an additional pollutant category for which the lake should be listed. I would also like to discuss with the RWQCB whatever possibility there might be of performing testing to determine the level of toxicity of Lake Merritt sediments.

Please feel free to contact me during workdays at 415/904-5229 if you have any questions regarding these comments. Thank you for your consideration of these views.

Sincerely,

John Bowers

D.O. bottom

DATE	Bottom 9	Bottom 2	BOTTOM 12	Bottom 5	Bottom 14	Bottom 17
23-Sep '98		7				
24-Sep	7		7	8		6
29-Sep	3	7	4.5	5	4.5	
6-Oct	11	5.5	9	5.5	9	
7-Oct	4	9	10		12	
13-Oct	8	8	8			7
14-Oct	8	10	8	8		6
21-Oct	7	7	7	10	7	7
27-Oct	5	9	3	7		2.5
28-Oct	4	5.5	4.5	2		5
3-Nov			5			3
4-Nov	3		5	7		4
18-Nov	5		6			
19-Nov	8			5		
25-Nov	7		2.5	6		1
2-Dec	4					
9-Dec	4		4		2	4
10-Dec	8		6	2		5
16-Dec	8			10		2
6-Jan '99						
7-Jan	7		6	5	6	5
11-Jan	5					
2-Feb			11.2			
11-Feb	12		11.3	8.6		4
17-Feb	11.8		3:5	2.06	7.6	7
25-Feb			9.5			2.49
3-Mar	5		8.05	17		10
4-Mar	13.5		10.5	15.55		
18-Mar			12.5			1
25-Mar	17.3					3.6
9-Apr	7.5		10.5		10.5	5
14-Apr	16.4		7.73	9	7	3.95
21-Apr	9			9.54	9.49	3.9
5-May	9.47			9	10	4.62
12-May	8.65	8.41	8.9	8.29	8.39	0.28

← Station Number.

* Some June + July readings in computer yet.

POUNDS OF TRASH REMOVED FROM THE LAKE BY LAKE MERRITT INSTITUTE VOLUNTEERS

	2001	2000	1999	1998
January	6,980	3,980	4,677+	5,340
February	7,700	8,060	6,536	5,025
March	2,700	3,940	4,300	3,240
April	3,260	3,580	5,520	2,100
May		2,680	1,980	1,580
June		1,840	880	1,835
July		1,860	1,600	1,220
August		2,300	980	1,080
September		1,760+	1,040	560+
October		3,960	2,880	2,180
November		5,360	6,180	2,421
December		1,580	2,660	4,380
Totals		40,900	39,233	30,961

THESE WEIGHTS ARE FROM THE SCALES AT THE DAVIS ST. TRANSFER STATION

OIL / PETROLEUM SPILLS INTO LAKE MERRITT

	Number	Type	Outfall #
January, '00	0	-	-
February	1	Petroleum	7
March	0	-	-
April	1	Fuel	32
May	1	Oil	46
June	0	-	-
July	0	-	-
August	0	-	-
September	0	-	-
October	0	-	-
November	0	-	-
December	1	-	-
January, '01	0	-	-
February	1	Oil	65
March	1	Oil	Embarcadero
April	0	-	-

Summary: There have been five spills of oil or petroleum into the Lake in the past 16 months; about one every three months (not counting Glen Echo creek which had one oil spill).

THE LAKE MERRITT INSTITUTE

568 Bellevue Avenue Oakland, CA 94610
510/238-2290 Fax 510/238-7199

December 3, 1998

David Smith, TMDL Coordinator
Water Division
U.S. Environmental Protection Agency, Region IX
75 Hawthorne St.
San Francisco, CA 94105

Re: Proposed Listing of Impaired Surface Waters in California

Dear Mr. Smith:

The Lake Merritt Institute (LMI) is a nonprofit corporation established for the principal purpose of preserving and enhancing the natural values of Lake Merritt, a tidally influenced estuarine waterbody in the City of Oakland. The LMI would like to register its strong support for the Environmental Protection Agency's (EPA) proposed decision pursuant to section 303(d)(2) of the Clean Water Act to add Lake Merritt to the list of impaired surface waters, or water quality limited segments, in California.

For all the reasons set forth in our comment letter to the State Water Resources Control Board (SWRCB) dated May 4, 1998, we believe this action to be amply justified. In its proposed decision EPA indicates that the listing of Lake Merritt is based upon the findings that water quality standards for the lake have not been achieved for two categories of pollutants: dissolved oxygen [depletion] and floating material. The available evidence, as cited in our letter to the SWRCB and as reiterated by the EPA in its proposed decision, provides ample justification for these findings. As indicated in a recently compiled chart of the quantities of stormwater discharge-related plastic and other floating material that have been removed from the lake in recent months (copy enclosed), this problem is one that continues to cause serious impairment to water quality in the lake. In addition, the city's storm drain system continues to discharge into the lake substantial quantities of tree leaves and other organic material, the decomposition of which is the principal cause of depleted dissolved oxygen levels in the lake.

We also have the following comments on EPA's decision *not* to identify 1) oil and 2) contaminated sediments as additional pollutants with respect to which the lake is failing to achieve applicable water quality standards.

1. **Oil.** As its rationale for declining to identify oil as a pollutant that is impairing water quality in the lake, EPA states in section 4.3 of its proposed decision that "no specific data or information was provided to support the assertion that oil is present at levels which violate the applicable narrative objective." The "narrative objective" to which EPA refers, as set forth in Chapter 3 of the San Francisco Bay Region Basin Plan

("Basin Plan"), and as quoted on p. 3 of our letter to the SWRCB, is that "water shall not contain oils...in concentrations that result in a visible film or coating on the surface of the water...that...adversely affect beneficial uses."

Since our letter to the SWRCB we asked for and have been furnished a copy of the logs of hazardous material response activities by the Oakland Fire Department in the Lake Merritt watershed. These logs, a copy of the relevant excerpts from which are enclosed herewith, indicate that within the past two years Lake Merritt has been the site of three serious discharges of petroleum products. The log describes the first of these discharges, on December 10, 1996, as involving "about 25 gallons of used motor oil that...flowed into Lake Merritt." The log goes on to note that in connection with this discharge "some wildlife [was] effected [sic]." The second discharge, which occurred on January 19, 1997, resulted in what the log describes as "a slight oily sheen on the lake." The third significant discharge is the one to which we referred in our letter to the SWRCB that occurred on December 31, 1997, that originated from a Caltrans office building near Lake Merritt, and that the log describes as a "large spill of diesel oil into Lake Merritt."

Each of the above-referenced spills caused petroleum products to be "present [in the lake] at levels which violate[d] the applicable narrative [Basin Plan] objective." In our view this evidence clearly warrants identifying oil as a pollutant with respect to which Lake Merritt is failing to achieve applicable water quality standards. We request that EPA reconsider its decision not to do so.

2. **Contaminated Sediments.** In our letter to the SWRCB we documented the presence in Lake Merritt of contaminated sediments at concentrations which exceed levels (denominated as either ERL or ERM) which have determined in laboratory studies to be likely to be toxic to benthic organisms. In section 3.2.2 of its decision, the EPA takes the position that evidence of exceedences of ERL or ERM levels must be accompanied by independent evidence of "benthic community effects" before such exceedences will warrant a listing of a waterbody under section 303(d). EPA specifically refers to the analysis of "benthic community effects" performed by the San Diego RWQCB as an example of such independent evidence. The LMI requests that, either in its findings or by separate communication, the EPA identify the protocol or methodology that the San Diego RWQCB utilized to analyze such effects. We further request that the EPA explicitly call upon the San Francisco Bay RWQCB to cooperate with the LMI in the performance of a similar analysis of the "benthic community effects" of contaminated sediments in Lake Merritt in time for the year 2000 section 303(d) listing evaluation.

We would also like to comment on certain of the factors on the basis of which EPA in its decision (section 4.3) adopted a priority ranking of "low" for the development of TMDL's for Lake Merritt.

1. **Waterbody Significance.** EPA's discussion of this factor in relation to Lake Merritt should acknowledge the facts that the lake provides critical foraging and roosting

habitat for the California brown pelican, a species listed as endangered under the federal Endangered Species Act, and for the double crested cormorant and the Barrow's goldeneye, both listed as species of special concern under the California Endangered Species Act.

2. **Degree of Impairment.** In its decision EPA states that "impacts to birds...from floating debris are unknown." There is in fact compelling evidence of such impacts. For example, earlier this fall the carcass of a ruddy duck was found floating in the nearshore waters of the lake in the area of the refuge. (Copy of photograph enclosed.) Upon investigation it was determined that the cause of death was a rubber band that presumably in the course of one of the duck's feeding dives had become wrapped around its head and mouth. Naturalists at Lake Merritt's Rotary Natural Science Center report the death from drowning a number of years ago of a white pelican which was frequently seen at the lake from entanglement in a length of rope. This incident exemplifies the risk that stormwater pollution poses to the endangered brown pelicans which forage and roost at the lake. While one could perhaps dismiss these occurrences as isolated, we feel that it is more in keeping with the probable reality of the situation to view them as manifestations of a larger problem the ultimate effects of which may not be fully apparent to us. Therefore, the conclusion to which we think this evidence clearly leads is that the floating material that the city's storm drain system discharges into the lake is having an undeniably adverse impact on the wildlife that inhabit the lake.

   EPA also finds significance in the continued use of the parkland surrounding the lake for noncontact water-oriented recreational activities despite the adverse aesthetic impact of the floating debris in the lake. We do not feel it should be necessary for there to be evidence of an actual reduction in recreational use of Lake Merritt in order for the reality and seriousness of the adverse impacts on such use of "the unsightly appearance of floating debris" to be acknowledged.

3. **Coordination with Other Water Quality Related Activities.** Other than "some opportunity for coordination with NPDES stormwater permit *renewal*," which "may be possible," the EPA states it is unaware of other water quality related activities with which development of TMDL's for Lake Merritt could be coordinated. (Emphasis added.) In fact there are a multitude of activities that are occurring under the *current* Alameda County stormwater NPDES permit with which the development of TMDL's for Lake Merritt could be coordinated. For example, the Municipal Maintenance subcommittee of the Alameda County Clean Water Program, the lead co-permittee under the above-referenced NPDES permit, has commissioned the environmental consulting firm of Woodward and Clyde to conduct a literature search and field studies to assess the efficacy and feasibility of retrofitting existing storm drain systems like Oakland's with storm drain inlet and point-of-discharge stormwater filtration devices. In addition, the LMI is currently involved in discussions with the City of Oakland and Best Management Technologies, a designer and manufacturer of stormwater filtration devices, on the desirability of installing as a pilot project a point-of-discharge stormwater filtration device at one of the storm drain outfalls in Lake

Merritt. Development of TMDL's for Lake Merritt could be coordinated with all of the above-described undertakings.

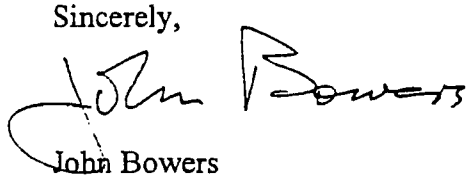
4. **Degree of Public Concern.** EPA notes that except for the LMI, "no member of the public raised issues concerning Lake Merritt during the 303(d) listing cycle." In this context the EPA should take into account the distinction between the LMI as a membership organization, and an individual commenter. The LMI's letter to the SWRCB was authorized by a unanimous vote of the LMI's 10-member Board of Directors. This action, in common with all actions sponsored by the LMI, was taken on behalf of the LMI's approximately 170 members, each of whom joined the LMI out of concern for preserving and enhancing the natural values of the lake.

5. **Potential for Beneficial Use Recovery.** The EPA states that "the potential for beneficial use recovery" at Lake Merritt "through TMDL implementation is unknown." The LMI feels strongly that implementation of the measures identified in the EPA's "TMDL Fact Sheet" as "TMDL Components" (i.e., Problem Statement, Numeric Targets, Source Analysis, Loading Capacity Analysis, Allocations, Monitoring Plan, and Implementation Elements) will contribute significantly to the enhancement of Lake Merritt's Basin Plan-designated beneficial uses.

For all the foregoing reasons, the LMI respectfully requests that the EPA give the development of TMDL's for Lake Merritt at least a "medium" priority ranking.

Thank you again for the EPA's forthright decision to place Lake Merritt on the section 303(d) list for California, and for your careful consideration of these additional comments.

Sincerely,



John Bowers
Member, Board of Directors, LMI