

The Lake Merritt Institute

LAKE TRASH REMOVAL, FOUNTAINS, EDUCATION, LAKE MANAGEMENT EXPERTISE

568 Bellevue Avenue, Oakland, CA 94610; 510/238-2290; lmi@netwiz.net; www.lakemerrittinstitute.org

VOLUME IX

"TIDINGS" - JUNE, 2004

ISSUE VI

STORM DRAIN SAGA (Inspired by a Tom Russell song)

Its under the concrete, deep in the earth;
on a back street in the old Oakland hills.

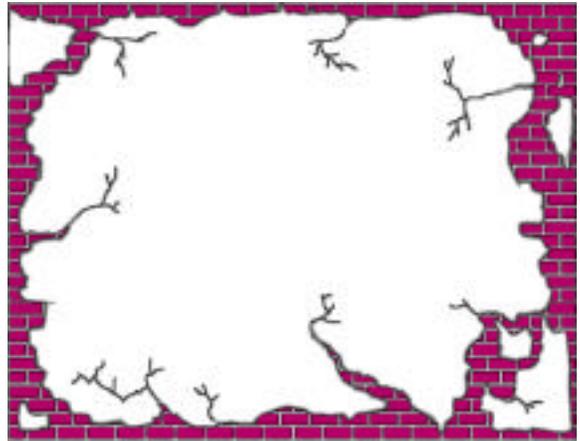
With a broken down collar, 200 cracks;
its leaking, sagging, half filled.

It had been a great storm drain, carried 50 year floods;
when first it made front page.

Before the big houses, earthquakes and roots;
from 68 odd years of age.

Now it lays in a puddle, overloaded, forgotten;
many long years past its prime.

So fix it, replace it, remove it we must;
before the next storm of our time.



The City Public Works Department has begun a program to fix broken storm drains.

INSTITUTE CONTRACT: Renewal of the Institute's contract with the City of Oakland is tentatively scheduled to be before the Council Public Works Committee on Tuesday, June 8th, and before full Council on June 22nd. Since there is only one Lake Merritt Institute and we like what we do, we hope the contract will be renewed.



A foram in a needle

NATURAL HISTORY SERIES – Part 4, Foraminifera? In Lake Merritt? Yep, they're here. At least fourteen species. Dr. Ken Finger is a micropaleontologist, museum scientist and manager of microfossil collections at the UC Berkeley museum of Paleontology. Along with Curtis Pehl and Dawn Peterson, he has been sampling these single celled, calcareous shelled critters that live in the mud of our tidal lagoon. Some of them are quite beautiful (photo from www.ucmp.berkeley.edu/people/klf/Current_Projects).

However, of the thousands found so far, none were living. He suspects the benthic microfauna of Lake Merritt is subject to episodic mass mortalities whenever bottom waters reach critically low oxygen levels, accompanied by high levels of smelly hydrogen sulfide. And, the most common species included numerous mutants, probably due to high levels of pollution. Dr. Finger's work will continue as (we hope) environmental conditions in the bottom mud improve due to Measure DD projects to increase circulation, improve oxygen levels and reduce storm drain pollution.

DOCK PROJECT:

After years of discussion, work started again last month on the boat dock across from the new Essex highrise on Lakeside Drive. But now it has stopped, again. It seems a discovery has been made that the pilings which were to be fixed are in worse shape than originally thought. But fear not, work should get going again around June 1st.



MONITORING BARRIERS: By now you may have seen three, white, floating squares on Lake Merritt, one by 1520 Lakeside and others at the end of Glen Echo and Trestle Glen. What are they and why are they here? They are boat barriers that will protect water quality monitoring probes to be temporarily installed at these locations. The probes (4 on loan from the Regional Water Quality Control Board and 2 belonging to Oakland) will measure temperature, oxygen and salinity near the surface and bottom for several weeks. It's all part of the planning to fix our low oxygen problem, obtain baseline data and see how well proposed improvements actually work. They will also be installed again for a while in the fall. Due to a lack of funds for maintenance however, the deployment will be only temporary. But for the first time ever, we will have continuous, simultaneous data for all three areas of the Lake. Thanks to the City of Oakland for bringing their probes out of storage, and to the RWQCB.

WATERSHEDS - PAST, PRESENT AND FUTURE: What was the Lake Merritt watershed like 500 years ago? What is happening in the watershed now, and what could it be like in the year 3000?

The Past: We can imagine what the watershed may have been like 500 years ago. Steelhead and perhaps coho salmon swam up to spawn in gravel beds, and were chased by grizzly bears. Towering redwoods, stately oaks, alder, willow and native grasses filtered the water before it got to the creek, slowly releasing it and thereby smoothing out the hydrograph (a chart of runoff per time period).

There were no buildings, no pavement and no cars. Chemical pollution was unknown. Natural meanders led to pools, riffles and gravel beds. Seasonal and permanent wetlands bordered the creek channels and native grasslands covered the higher hills. Shaded by trees, the water was cool and clear. Bird life was probably abundant beyond belief, as were aquatic insects, elk and bear. Occasionally, an Indian would wander by.

We can only speculate on what it was like because there were no written records, no stream gauges, no cameras. By the time newspapers were here, our ancestors had already modified the watershed by erosion, development and even sewage. Wetland filters were eliminated. Soil filters were covered up with pavement. And so in the recent past the watershed became increasingly corrupted; sending more water downstream after a rain, and less during the dry season.

Next Month – The Present

Coming Soon – Will the Future Include “The Perfect Watershed”

AVAILABLE BY EMAIL: Many thanks to all of you who have agreed to receive this newsletter by Email (44 at last count). Electronic delivery means less paper for you, savings on envelopes and envelope stuffing, lower copying costs and fewer stamps to buy! If you want to join this elite group, just send a note to lmi@netwiz.net and we'll add you to the list.

DD UPDATE – WATER QUALITY



Aeration project studied: The City of Oakland Water Quality Technical Committee is considering several projects to improve oxygen levels in the Lake. Currently under consideration is a patented aeration mixing system which has been successfully used in estuaries up to 500 acres. The goal is to keep both surface and bottom water at 5 parts per million (ppm) of oxygen or more. Under existing conditions, oxygen in the bottom water can get as low as 2-3 ppm, or lower, which is deadly to most aquatic life. Experiments could take place this summer and if successful, plans could be made for an eventual Lake wide system with about one diffuser per acre. Except for bubbles at the surface and a shed on shore, the system would be out of sight. It would be operated automatically using oxygen sensors, or could be turned on manually in different areas of the Lake.

Storm drain filters: Seven sites have been the subject of detailed planning, including sub-watersheds of 36 – 510 acres. Of these, four look to be suitable for continuous deflection separation filters such as the two now installed. Filters could be located just up from outfall 54 (at a site collecting runoff from 66 acres and 48 curb inlets); above outfall 56 (at a site collecting runoff from 121 acres and 112 curb inlets); at 26th and Valdez Street (at a site serving 71 acres and 65 inlets); and at 3rd Avenue near Newton (a site serving 230 acres and 85 inlets). All of these sites are in commercial districts which contribute trash to the Lake. Installed costs would be, respectively, \$105,000; \$250,000; \$120,000; and \$260,000, for a total of \$735,000, which would use up much (but not all) of the funds remaining in the phase I (2003 – 2006) bond sale for this category. An additional \$1.5 million and \$1 million will be available for aeration, filters etc. in phases II and III. The Water Quality Committee will further consider these options at its June meeting.



How Best to Solve the Trash Problem?

Clean hundreds of curb inlets once a week? or

Clean a dozen storm drain filters six times a year?

Storm drain filters catch trash from many curb inlets.

Filters catch trash 24 hours a day, 7 days a week, not once a week.

Filters catch more trash with less maintenance.

SEASONAL GOOSE INCREASE HAS BEGUN: The latest count of geese in Lakeside Park found 550 adults and 50+ goslings. This number is up from the typical 200 – 300 geese that use the Lake during the fall, winter and spring. Based on counts in 2002 and 2003, there will be at least 1,900 geese here by the time you read our next newsletter. So, watch where you step!

The Lake Merritt Institute is sponsored and supported by the Oakland Public Works Agency and members like you.