

# The Lake Merritt Institute

And CENTER FOR URBAN RUNOFF AND WATERSHED RESEARCH

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ISSUE I

**OCEAN TO RECLAIM LAKE MERRITT?** As shown on the map below, a seven meter rise in sea level, which is possible by 2100 due to global warming, would re-connect Lake Merritt to the sea, make downtown Oakland an island and obliterate most of Alameda. For those skeptics who think such things are impossible, it happened before when dinosaurs roamed the earth. During such a period, the global average temperature was about 75 degrees Fahrenheit (it is now 57 degrees and rising) and sea level was 220 feet (67 meters) higher. Melting of the Greenland ice sheet (upon which numerous earthquakes have recently been measured) or half of it and half of the West Antarctic ice shelf would provide enough water to raise sea levels by 7 meters. Some estimates of climate change do not predict so large a rise in sea level, but they do not include the effects of several positive feedback loops (e.g. reduction of solar reflectance from ice, melting of permafrost, increased use of fuel to power air conditioners, release of ice/methane deposits) which will act to significantly enhance global warming.

NOTE - to our members who receive "Tidings" by email: A complete map file is not available to place into the newsletter electronically. However, see the directions below to create your own map. You can also vary the increase in sea level and explore other areas. For best results, make numerous, *small* changes in the zoom and pan tools.

What would happen if the Bay Area were threatened by such a rise in sea level? Would each city and county begin to feverishly build sea walls? Would drinking water intakes in the Delta be inundated by sea water? Would agriculture and housing in the Delta be flooded? While no one can predict just how individual jurisdictions would react, it would seem that they might band together, pool their financial resources, and attempt a solution that would solve most of the flooding problems with one project. That of course would be a sea level barrier at the Golden Gate. If sea level could be controlled there, where the opening is narrow, it would limit flooding everywhere upstream. The cost savings relative to hundreds of miles of sea wall elsewhere would be enormous. Horrifying as it may seem, our children may be called upon to make such a decision, because once continental volumes of ice are melted, we will not be able to re-freeze them.

To view the map on your computer, go to <http://flood.firetree.net/>, choose 7 meters for sea level rise, scroll around the map of the world and zoom into central Oakland. Elevation data is provided by NASA and maps by Google.

**THE GLEN ECHO CREEK WATERSHED STORM DRAIN NETWORK:** Our fledgling geographical information system is beginning to show results. Shown on the next page is an aerial photo of the watershed, surrounding area and Lake Merritt. Superimposed on it are reservoirs and (shown as black dots) all of the storm drain inlets in the watershed.

If you had this on your computer, you would be able to zoom down onto your neighborhood and see YOUR storm drain inlet in much more detail. Even as shown in this small size, it becomes clear that this watershed includes large residential areas, a vast area of golf course & cemetery, business districts and commercial centers. Obviously, most of it is urbanized, and (although we have not yet calculated it yet) it appears that much of it – 30 to 50%? – is paved. This means that rainfall runs off of it rapidly without becoming ground water. Our goal is to expand the GIS so that such areas and their runoff can be calculated, which will provide information useful in estimating floods, and water quality in Lake Merritt.

In next month's newsletter we will present a GIS view of all the storm drains in the watershed.

**DUCKWEED NOT A PROBLEM THIS YEAR?** During most years, large rainstorms wash huge quantities of duckweed (tiny green plants) down the Glen Echo watershed and into Lake Merritt. This year however, there is little to no duckweed in the golf course reservoir near Broadway and Pleasant Valley (see watershed map – it is next to the shopping center). This photo was taken in mid-December and shows a water level still several feet below the top of the outlet structure, which drains to Glen Echo Creek and thence to our Lake. We don't know why there is no duckweed in the pond this year. There may however, be duckweed in the cemetery ponds, so stay tuned.



# Glen Echo Watershed Stormdrain Inlets



Stormdrain Inlet



Stormdrain Outlet at Lake Merritt

Seven square miles of Oakland and Piedmont drain directly into Lake Merritt. This GIS map shows the boundaries of the Glen Echo Creek watershed (the area of land that drains into Lake Merritt via Glen Echo Creek).

Each blue point represents one of the 438 stormdrain inlets recorded within the Glen Echo Creek watershed. Every one of these curb inlets drains out into Lake Merritt.

When it rains, these drains carry thousands of pounds of trash and other pollutants into Lake Merritt. The lesson: Keep your streets and storm drains clean!

**PERALTA SERVICE DISTRICT CLEANS UP:** You will see them out there every Monday and Wednesday, from about 8 am to noon: Two members of the Peralta Service District, cleaning up Lake Merritt. The Institute has a contract with the District which is a subsidiary of the Unity Council, an Oakland based non-profit whose mission is to build the assets of families and low income communities through a comprehensive program of sustainable physical, economic and social development. Their work is part of our overall five-day-a-week effort to keep Lake Merritt clean by removing trash washed in from storm drains.



**VERTICAL STORM DRAIN INLET GRATES WOULD HELP:** We removed this young raccoon from the Lake after it drowned, probably inside a storm drain which filled up during a rainstorm. These animals and others, such as opossums, use the drains as their underground highways, until it rains.

If all storm drain curb inlets had vertical bars installed, they would not be able to get inside the drain, and could thus avoid the fate of this one. Such bars would keep the larger pieces of trash (such as cans & bottles) out of the drains too, resulting in a cleaner Lake.

## **MONTHLY BIRD REPORT – By Correspondent Hilary Powers:**

### December Delights at the Lake

Wednesday the 27th was bright and beautiful. It was windy, though, which reduced the avian turnout somewhat - especially in the woods. Of the 36 species we saw, 23 were water birds: all the usual winter migrants (both scaups and both goldeneyes and the American Coots and the Canvasbacks and Ruddy Ducks and four kinds of grebe, the three little regulars and the big, snake-necked Western Grebe, which less often makes an appearance here), plus Ms. Kingfisher at her usual post on the island, and plus the usual Mallards and Canada Geese.

The viewing is a bit remote this year as the park has stopped feeding grain, so the wild migrants don't come in close to the shore in the numbers we've seen in preceding seasons. (The Canada Geese still do, of course, as they don't care - grain is nice when they can get it, but the lawn provides all the food they need to keep them happy.)

Over in the woods, we were treated to a display by a male Anna's Hummingbird (the green kind) getting an early start on the courting season, flying high up and then diving at the ground and swooping around in a tight J curl. You can tell hummingbirds apart as much by the way they display as by their color; the other common species here is the Allen's, which - besides being orange - drops into a much flatter J and then goes back and forth several times at the same level.

After good looks at some other little tree-hopping birds and nearly getting blown off the path on the hill behind Children's Fairyland, we called it ... another good day at Lake Merritt  
Onward --

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To contribute to the Lake Merritt Institute, contact us at 510-238-2290 or 568 Bellevue Avenue, Oakland, CA 94610.*

