

# THE TIDINGS



LAKE MERRITT INSTITUTE

568 Bellevue Ave., Oakland, CA 94610-5026; (510) 238-2290; [Imi@netwiz.net](mailto:Imi@netwiz.net); [www.lakemerrittinstitute.org](http://www.lakemerrittinstitute.org)  
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Lake Merritt's only “unimproved” shoreline, located at Lakeside Park's Adams Point. Photo by Eric Simons

**REMARKABLE “OLD” FIND AT LAKE MERRITT** - Many years ago, as part of a strategy to control mosquitoes at Lake Merritt, vertical walls were built so as to eliminate areas of shallow fresh water where mosquito larvae could mature out of reach of hungry minnows. For reasons now unclear, only one roughly 300 foot stretch of shoreline along Lakeside Park's Adams Point, located on the north side of the lake, between the Lake Merritt Boating Center and the Band Shell, was left “unimproved”. It was on this original muddy shoreline, that in September of 1962, a 14-year-old boy named Jim Carlton was exploring and found an oddly shaped rock. The rock was later determined to be a mass of calcified worm tunnels made by South Sea tube worms that had somehow crossed the Pacific Ocean. These tube worms are now a common sight in the lake as well as the rest of San Francisco Bay. However, Carlton made a second discovery. Hopping around the tube worm accretions were small, slender crustaceans only about 1/2 inch long.

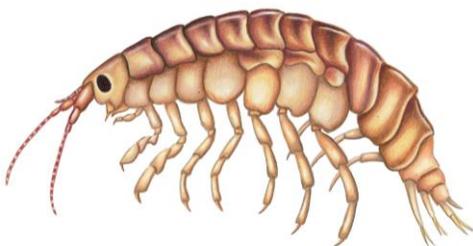


Illustration by Rachel Diaz-Bastin

The crustaceans were brownish-orange, and looked something like half-inch long land lobsters. Carlton didn't know what they were, and after showing specimens to experts in the Bay Area's scientific community, then to the Smithsonian, and then finally to the world's leading authority on beach-hopping amphipod crustaceans, Edward L. Bousfield of the National Museum of Canada in Ottawa, it became clear that no one else knew what they were either.

(Continued)

("Find", continued)

In 1967, to document the odd find, Bousfield and the now 19-year-old Carlton jointly published a paper in the "Bulletin of the Southern California Academy of Sciences" naming the hopper *Orchestia enigmatica*. Later, in 1982, as a taxonomic re-organization, Bousfield moved the amphipod into the genus *Transorchestia*, revising the name to *Transorchestia enigmatica*. However, still today, this unique animal which occupies a remarkably small segment of lake shoreline has no known origin.

Later, Carlton became a professor at Williams College in Massachusetts and the director of the college's Maritime Studies Program in Mystic, Connecticut, developing a reputation as being an expert in the field of marine biology.

In 1998, Carlton and Andrew Cohen, a bioinvasion expert, jointly published a widely quoted article in "Science" labeling San Francisco Bay as "possibly the most invaded aquatic ecosystem in the world." As a result of the Bay Area's remarkable maritime traffic from all over the world, from the 1960s to the 1990s, they estimated, a new species arrived in the Bay every three months. Further, in certain regions of the bay, they found that introduced species made up almost 97 percent of the organisms and 99 percent of the biomass. As for Lake Merritt's unusual "hoppers" Carlton speculates that they may have come from Chile, or possibly New Zealand.

Carlton, now 68, still likes to check on the hoppers every few years. Further, after Bay Nature staff writer Eric Simons first reported on this extraordinary find, local naturalist Liam O'Brien went looking and seems to have found a few of the hoppers on the south side of the lake, on the long beach near the connector to the Oakland estuary. After all of these years perhaps it is possible that the hoppers have finally established a new, second colony. Simons relayed to LMI that Carlton is planning to re-sample the lake in September and October. More news on Lake Merritt's remarkable amphipod later. 🌐



**NEW AERATION FOUNTAINS** – With great relief, the critical aeration fountains at both the Glen Echo and Trestle Glen Arms are again in operation. The pumps have been out of service since experiencing damage due to corrosive salt water intrusion. As the pumps were certified as being rated for use in saltwater environments LMI expected timely replacement under warranty. However, the supplier has been delaying and a dispute continues. In exasperation, LMI dipped into reserve funds to purchase new units (about \$10,000 each) from an alternate supplier. Normal standing water should have dissolved oxygen levels of about 20 parts per million (ppm). However, due to low circulation, Lake Merritt has dissolved oxygen levels of only about 5ppm, a level considered the minimum to support marine life. Thus, pump replacement was a critical priority. Now both marine life and LMI staff can all breath easier.

**WILLIE IS ALIVE !!** – Contrary to recent rumors as well as an unofficial altar that has been established in the Purgola at the Lakeshore Arm, Willie Ellis is indeed alive. However, sadly, he is ill and in the hospital. LMI volunteers often have surprisingly warm conversations with those who seem to make their homes around the lake. One regular fixture is Willie who sells odds and ends at the Pergola. Visitors know Willie as a friendly fellow who always lights incense to provide a nice aroma to the area. LMI volunteers appreciate that he helps keep the area clean and give him trash bags to assist his efforts. Further, Willie also assists LMI by reporting abandoned turtles. We all wish Willie a quick recovery. 🌐

## CLIMATE CORNER – THE POLITICS AND CLIMATE OF LAKE MERRITT – TRUE OR FALSE? - Richard Bailey, PhD., Founder, Board Member

#1 Tillary Fishton was recently criticized for operating a non-profit that helps reduce diseases of waterfowl at Lake Merritt.

#2 Carbon dioxide levels at the Mauna Loa Observatory atop the Mauna Loa Mountain on the “Big Island” of Hawaii averaged 404 parts per million last month. Geological and other records show that they have not been this high during the last million years. A safe climate level is about 350 parts per million.

#3 Ronald Trumpfoo promised to improve the water quality in the Lake by draining out all the water.

#4 A prominent British polar scientist recently predicted that the Arctic Ocean will be ice free by the summer of 2017 or 2018. Former predictions a few years ago said this would not occur until 2015 – 2030, indicating that climate change is happening much faster than scientist’s predictions.

#5 Berry Jown recently prevented shrimp caravans from carrying coal across the bottom of Lake Merritt from the Port of Embarcadero to the Port of Oakland.

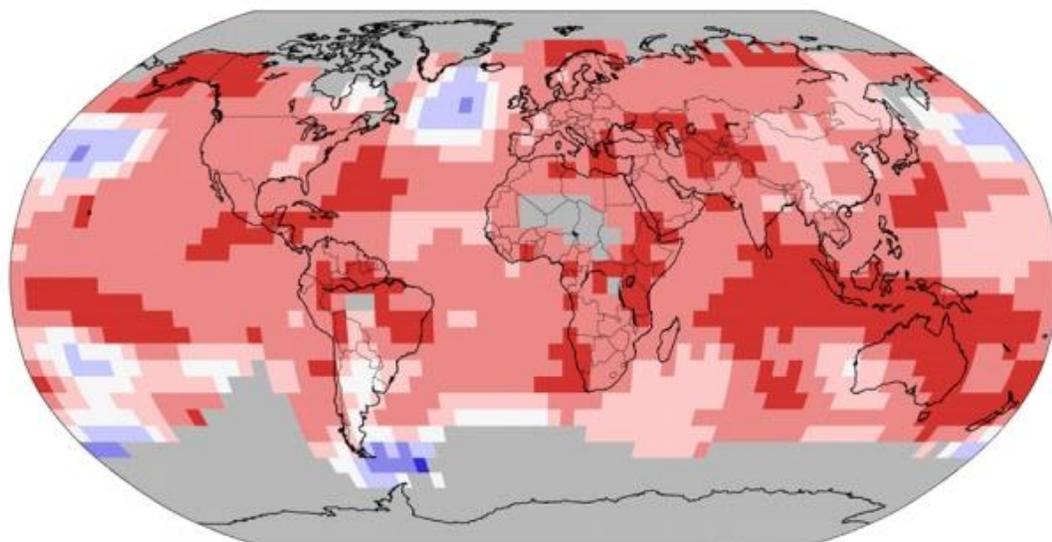
#6 Carbon dioxide levels in the atmosphere above Lake Merritt (and in India) have been increasing at more than 2 parts per million for the last few decades. For a safe climate, we must not only achieve near zero carbon emissions, but also remove existing carbon from the air.

#7 Pelicans for Social Justice (aka the Citizens Climate Lobby) held 1,241 lobby meetings with Congress, published 3,574 letters to the editor etc., and sent 16,064 letters to congress in 2015. Join the Pelicans!

Answers: #1: False; #2: True; #3: False; #4: True; #5: False; #6: True; #7: True. If you did not get all questions correct, it would be best if you brush up on what is happening to Lake Merritt (and our planet) because your children just might start asking some pretty hard questions.

### 2016: Hottest Year so far

Land and ocean temperature percentiles Jan-Jul 2016





## RED SHOULDERED HAWK AT LAKE MERRITT – Hilary Powers

The August 4th-Wednesday Golden Gate Audubon Walk started with a rare treat: a Red-shouldered Hawk showing off black-and-white wings and russet head, shoulders and chest like an ornament on top of one of the island trees. And at that we missed the real party. “I saw one of those sitting on a branch as I was walking in,” one of the attendees said, peering through the scope. “I didn’t know what it was, but another one came up and drove it off its perch, and they both flew away in opposite directions!” We saw the bird a couple more times later in the morning, pursued by crows.

August is about the least-birdy month at the lake, but we had plenty to keep us amused besides the hawk. The Double-crested Cormorants still had babies to fledge on the islands, at least one of the juvenile Belted Kingfishers was rattling around, and two Green Herons were determinedly ignoring each other on one of the islands. In fact, we had all five of the regular heron-type birds, including a lot of flight display from a Great Blue and two Snowy Egrets playing chase-me-chase-you around the islands, and both Brown Pelicans and American White Pelicans - the latter putting on a fine display of fishing near the shore below the Nature Center.



Bewick’s Wren

In the garden, the Anna’s Hummingbirds were buzzing like bees near a hive, especially around a big bush or bushy tree covered with 3” flowers hanging in purple tubes. Too many hummingbirds to count! A Bewick’s Wren fossicked around near the Bee Hotel, and the rock fountain in the Scent Garden entertained half a dozen House Finches and Lesser Goldfinches.

The 17 hardy birders who managed to join in despite the near-total absence of parking - we were there on Line Painting Day, and only the boathouse lot had any place to get off the road - had a fine time. All 29 of the species observed were doing interesting things, and all in all it was a lovely day at Lake Merritt, where every day, cloudy or sunny, is a lovely day. 🌿

## HAPPENINGS AROUND THE LAKE -

**AUDUBON BIRDWALKS AT THE LAKE:** Join bird expert Hilary Powers any fourth Wednesday of the month for a free “Birdwalk” at the lake. Muster at the geodesic bird cage near the Nature Center at 9:00 for what are always fascinating introductions to lake birdlife.

**EDITOR: Ray Perman** - “The Tidings” is published by the Lake Merritt Institute (LMI) for the purpose of publicizing the work of the organization, as well as providing articles of interest regarding the environment, and natural and anthropological history of Lake Merritt, and its surroundings. Comments and contributed articles are welcome. Please feel free to contact me directly: [“rgperman@gmail.com”](mailto:rgperman@gmail.com) 🌿

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