“The Tidings” is an editorial newsletter. Posted opinions are not necessarily those of the City of Oakland.

THE SEASON OF ALGAE

In “A Year in the Life of Lake Merritt”¹, Dr. Bailey describes two seasons at the lake: the season of phytoplankton which dominates from about September to March and the season of algae² from April to August.

The great rains of 2017 flushed the brackish water out of Lake Merritt to nearly fresh-water conditions (reaching 6 parts per thousand salt to be exact, when normal is 15-20 parts per thousand in spring). How has the growth of algae been affected?

As of July 6th, salinity has returned to normal levels of about 25 ppt. Sea lettuce (Ulva) which grows in sheets and stringy hollow tubes usually makes an appearance with rising temperatures in April dominating the shallow shoreline. It was right on schedule this April along Lakeside Drive. Widgeon grass, a true plant that is an invasive nuisance, also appeared in May on schedule. The algae harvester began removal to cope, but the amounts were much less than in other years.

SMELLS! Algal growth is a result of excess nutrient runoff from landscapes within the Lake’s 4,650 acre watershed. Living algae contribute dissolved oxygen to the water and are food for aquatic organisms from zooplankton to birds and fish. That’s good. The problem is that they have relatively short life cycles, and when they die they sink to the bottom of the lake. There they decay, consuming precious dissolved oxygen and releasing unpleasant odors associated with anaerobic (without oxygen) respiration. Decomposition fertilizes the growth of more algae, plankton, widgeon grass, wire weed (Sargassum muticum) and blue-green bacteria. Thus, algae blooms and the low-oxygen conditions they create are detrimental to other aquatic organisms and human olfactory aesthetics.¹ Good reason to “Love Your Lake” and reduce trash and other urban runoff.

LMI IN JUNE: 2,260 lbs. of trash were removed from the lake totaling 16,040 lbs. year-to-date.
James and LMI Staff hosted 124 volunteers and made two educational presentations (0.00” rain).
* Call our office at 510-238-2290 to schedule a lake clean-up event or presentation for your group.

SALUTE OUR JUNE VOLUNTEERS! PANDORA, TMP, Laney College Professor Amy Bohorquez on her day off (!), and LMI A-TEAM regulars. We appreciate their efforts and community spirit immensely! Photos of the groups are below in the email edition, which is linked online at lakemerritt.org.
Pollinator-Palooza!

Pollinators are species that carry pollen from one flower to another flower—incentivized by nectar, pollen or other gifts—allowing the plant to reproduce. They are bees, butterflies, flies, other arthropods and even birds and mammals. According to naturalist and biologist Edward O. Wilson, 80% of our food crops require the assistance of pollinators, mostly insects. “One of every three mouthfuls of food we eat and beverages we drink are delivered to us roundabout by a volant bestiary of pollinators.”  

Pollinator relationships sustain biodiversity.

The Garden Center at Lake Merritt celebrated Pollinator Awareness Week on June 25, 2017 with a variety of engaging educational activities free to the public. The Pollinator Posse, founded by Park Director Tora Rocha, and the National Wildlife Federation hosted Community for Lake Merritt, the Insect Children’s Fairyland, the Sciences Museum and other groups at Lake Merritt to put on the first ever Pollinator Palooza.

With native pollinators in decline worldwide, this event raised awareness about the important roles pollinators play in environmental health. Above and at right, Liz Delph and Terry Smith of Community for Lake Merritt display food plants and the four developmental stages (egg-larva-pupa-adult) of local native butterflies.

Wild bees are thought to be more vulnerable than honey bees to neonicotinoids; some earlier studies showed that exposed wild bees and bumble bees have depressed reproductive potential. Researchers found that similar signs of harm correlated with higher levels of the chemicals in nests. They also found that the nests contained low levels of imidacloprid, a neonicotinoid that hasn’t been used in Europe since the moratorium. That suggests neonicotinoids persist in the environment and are taken up by wildflowers, exposing bees years later—“a cause for concern.”

Participants went on an Insect Safari with Eddie Dunbar, learned how to grow pollinator-friendly native plants in their gardens and build nests for native bees.

[Photos by Eddie Dunbar]
The light was unspeakable for the June 4th-Wednesday Golden Gate Audubon bird walk - flat silvery sky like polished pewter from horizon to horizon, no shadows, and just enough wind to keep the trees moving ceaselessly - but the 20-odd birders who turned out saw some wonderful things anyway. The female Belted Kingfisher perched on a snag on one of the islands the cormorants have abandoned (only our second June sighting ever), and a Green Heron fossicked among the rocks on one island and a raccoon on another. Double-crested Cormorants flew nesting material to the trees, possibly new would-be parents looking to refurbish nests for a third round of babies. The air was full of swallows - mostly the brown Northern Rough-winged, but also some Violet-green and a couple that looked like Barn Swallows.

Fledglings were everywhere - adult-sized but identifiable by behavior or markings: bronze Double-crested Cormorants in the trees and on the floats, streaky Western Bluebirds playing on the lawn beside the lake, street gangs of American Crows near the fountain across Bellevue from the Nature Center, juvenile Dark-eyed Juncos under the Strawberry Trees, looking like alien species except for their paired white tail feathers. And behind the tot lot, a young Mew Gull strolled among the larger gulls, looking astonishingly cute for a member of that voracious class the small head and pencil-thin bill making the eyes seem large and kindly (not something that generally comes to mind for a gull).

But the most memorable sight was one none of us could recognize, silhouetted against the sky in the dead pine beside the Monkey Puzzle tree in the garden: a brown bird with a heavily marked chest, more like scales than speckles, and thin feathers like horns rising behind and above each eye. Huh what? Not a Horned Lark; no collar (though the size was about right). Not someone with mussed head feathers like the bald California Towhee we’d seen earlier; way too sleek and symmetrical. Not an owl or a predator of any sort, except perhaps a bug-chaser; wrong beak. Nothing a fast image search turned up after the walk, either. Strange....

We were chilly but happy (and even happy to be chilly, with the memory of recent heat waves still vivid), and we racked up 32 species again this month, though the throng of House Sparrows hardly made up for the absence of the Cooper’s Hawk. All in all, yet another good day in the unbroken string of good days at Lake Merritt.

- Hilary Powers

DON’T MISS OUT!! LAKE MERRIT BOATING CENTER: Splash Into Summer Open House (Saturday July 22nd) - Free boat rentals 1-3 pm 568 Bellevue Ave., Oakland, CA 94610

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Get bonus article on Summer Solstice Tides at Lake Merritt!
CLIMATE CORNER SHOW YOUR COLORS TO SUPPORT THE PARIS AGREEMENT -- A Guest Editorial by Dr. Richard Bailey

“We’re getting out” said our neophyte president regarding the Paris Climate Agreement, approved by every other nation on the planet except Syria and Nicaragua (which declined because the agreement was too weak). "We don't want other countries and other leaders to laugh at us anymore" he said; yet that is exactly what other nations are now doing because Mr. Trump is too timid to tackle climate change.

But, as Japanese Admiral Yamamoto commented after making the mistake of bombing Pearl Harbor:

“I fear all we have done is to awaken a sleeping giant and fill him with a terrible resolve.”

The current administration’s planetary snub will come back to haunt them. As Reuters recently reported, over 1,000 U.S. governors, mayors, businesses, universities and others will continue to meet the goals of the Paris climate agreement abandoned by President Donald Trump last week.6

You can be part of the awakening giant! Show your terrible resolve with green lights on your porch, in your window, on your business, and everywhere else. Let your light shine, and join cities around the world in this display of resistance, as shown by green lighted buildings.

To quote John Englander:

“tackling climate change … is not some political parlor game. This is a moment in history for our species. This is not a time for partisanship, modest efforts, or even pessimism. We need commitment and leadership. What we do will profoundly affect future generations.” 7

Ray* of Hope – Oakland City Council boosts spending for trash reduction

… in honor of late Tidings Editor. Ray* Perman

Save the Bay reported that the Oakland City Council approved a two-year budget that includes significant new investments recommended by Save The Bay to keep trash off Oakland city streets, and out of San Francisco Bay.8 Oakland will add two new cleaning crews to remove trash from illegal dumping sites and homeless encampments, and will install trash capture devices in storm drains through transportation and streetscape improvements.

Perhaps next year, trash nets at Glen Echo.
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References:
1 A Year in the Life of Lake Merritt, Dr. Richard Bailey, http://www.lakemerrittinstitute.org/papers/A_Year_In_The_Life.pdf
2 Although green, phytoplankton and algae are not really plants, but photosynthesizing members of the Kingdom Chromista http://www.ucmp.berkeley.edu/chromista/chromista.html
6 http://www.reuters.com/article/us-usa-climate-paris-idUSKBN18W2DQ
7 http://www.johenglander.net/sea-level-rise-blog/truth-trumps-tragic-decision/
8 https://www.savesfbay.org/
Mid-Summer Solstice Brings High Tides and Flood Control Challenges

From NOAA:
Daily tides: High and low tides occur twice a day in most areas.

Summer Solstice:

Higher high tides occur due to the increased angle of the sun relative to the Earth during the summer solstice.

On the West Coast in particular, there will be higher tides near the June 21 summer solstice due to the position of the sun relative to the earth’s equator.

- What kind of impact might I expect along the coast?
  - Minor tidal flooding along the coast, in particular in low-lying areas.
  - If a storm occurs at this time, increased levels of tidal flooding and coastal erosion may occur.
  - Lower than normal low tides may also occur.

NOTE: Higher than normal high tides alone generally do not cause significant flooding or negatively impact coastal areas. It is the combination of higher than normal water levels during these high tide periods and weather or wave conditions that lead to flooding and negative coastal impacts.

The tide chart at left shows that the maximum high tide at the Golden Gate exceeded 6.5 ft. from June 23-26.

At Lake Merritt: The Flood Control Station usually closes the tide gates for tides >6.5 ft. The gates were closed Friday-Monday and water level was held at a relatively full level of 1.5 ft. in contrast to 1.0 ft. maintained during storms. Dissolved oxygen was 5 ppm, the EPA standard on Monday June 26th.

Calm as a lake = no tidal flushing during June weekend of Solstice high tides. Water level was at 1.5 ft. DO 5 ppm (Photos: K. Noonan 2017).

Rotary Nature Center Update: Still closed 😞
We will report as soon as we hear about when it will resume operation and how natural history programs will be made available there.