THE TIDINGS



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MID-SUMMER AT THE LAKE



Why we have higher high tides in summer (NOAA).

Have you noticed very low tides at the Lake lately? With no rain in sight, we are experiencing king tides and low low tides (LLT) that are typical near the summer solstice. Extreme tides occur as the sun's angle relative to the Earth increases (See figure at left).

At Lake Merritt, the tides have ebbed and flowed freely. The Alameda County Water Flood Control & Water Conservation District, which controls water levels in the lake to protect the surrounding urban area from flooding, keeps one tide station channel open in the dry season to allow tidal flushing. This year upgrades are being made in the facility at 7th St. The tide gates themselves are being repaired and refurbished, the trash racks cleaned and re-

surfaced – and inside – a new control system (SCADA, Supervisory Control & Data Acquisition) has been installed that will improve remote operation of the tide gates to control water levels. Until now, changes in tide gate positions, called modes, were normally made by staff on site.

The new system will provide digital output of water levels in the Lake and Channel. It will be clearer and more comprehensive than the old circular tide charts. It will save money and open up the opportunity to

respond more sensitively to watershed and meteorologic conditions to support the estuarine ecosystem of the wildlife refuge -- while prioritizing the protection of human life and property from flooding.

During the station's bi-annual structural inspection, staff noted that marine life encrustation is way, way up. Although the trash racks were cleaned last February, there is now an 18" to 24" buildup of mussels on the racks, impeding water flow and the tidal flushing of the lagoon. It can cost hundreds of thousands of dollars annually to scrape off the accumulated critters. Drought, high water temperatures, high nutrients in runoff, and persistent high salinity may have contributed to increased growth.



Tide gates closed on June $12^{th} - 6.71$ feet king tide anticipated at midnight.

LMI in JUNE: 11,130 gallons of trash removed from the lake by staff and volunteers in May and June. Total trash collected so far in 2022 was **44, 410 gallons.** (including May and June)

LMI Director James Robinson hosted **272 volunteers**, gave 3 presentations and attended 5 meetings.

66 used syringes removed 0.24 inches of rain recorded recorded by LMI rain gauge in May and June

THANK YOU TO OUR MAY and JUNE VOLUNTEERS! We appreciate your efforts and community spirit. Great Job! Volunteer groups: Achieve, Park Day School, Yoga Group and the LMI A-TEAM regulars. YOU can support the Lake Merritt Institute's important work. Go to our <u>website</u> to find out how. More photos in this email edition of The Tidings.

LOVE OUR LAKE? Make a tax-exempt donation today! You can pick up a membership application at our Tuesday or Saturday morning table at the Lake Merritt Boating Center and soon at the Farmer's Market. Or, download an application at **lakemerrittinstitute.org** or use the PayPal/credit card donation button.



Honoring Dr. Andrew Wong

The aeration fountains at the Embarcadero and at the Glen Echo Creek inlet are so much a fixture that many people do not know that they were donated to the City of Oakland by Dr. Andrew Wong an immigrant from China who loved the Lake and understood science. Dr. Wong lived by the lake and enjoyed the view of the Embarcadero from his apartment window. Dr. Wong donated three fountains to Lake Merritt in his lifetime. The aeration fountains are critical to increasing dissolved oxygen in the water. Dr. Wong died in 2017 (see The Tidings Dec 2017).

During the pandemic, the bronze plaque on a boulder near Bandstand Beach went missing. In June, Executive Director James Robinson replaced it with a plastic one that looks just as sharp. Thank you, James, and thank you Dr. Wong!

Community Water Quality Report - Cloudy, low oxygen in June

Water quality was measured from the Lake Merritt Boating Center dock June 18th by Rotary Nature Center Friends Juneteenth workday volunteers.

Depth 1.45 meters; Water Clarity 100 cm

<u>Temperature</u>: 20 degrees Celsius (degC) at the top (68 degrees Fahrenheit)/18 degrees Celsius at the bottom (64.4 deg Fahrenheit)

Normal for season

Salinity 35 parts per thousand (ppt) top/35 ppt bottom) HIGH pH: not measured

<u>Dissolved Oxygen</u> 3.5 parts per million (ppm) at the top/5.5 ppm at the bottom. (Top water does not meet EPA standard of 5 ppm).



COMING UP - August 5th Lakeside Chat #21: "A Conversation with Corrina Gould, Sogorea Te' Land Trust and Save The Shellmounds, Ohlone Territory of Huichun/Oakland, CA"



7-8 pm on Zoom FREE Register HERE: https://LakesideChat-21-Ohlone-Spokesperson-Corrina-Gould.eventbrite.com

Site Exploration Focused on Sea Level Rise at Lake Merritt – What will sea level rise mean for Oakland and Lake Merritt? Stroll by the Lake Merritt sailboat house Sunday August 28th 1-4:30 pm to enjoy exhibits, science activities and art prepared by the San Francisco Exploratorium, Rotary Nature Center Friends and The Lake Merritt Institute.

Late Spring Perfection at Lake Merritt – by Hilary Powers – Golden Gate Audubon

Seventeen happy birders gathered for the May 4th-Wednesday Golden Gate Audubon walk at Lake Merritt, met by lovely light, mild temperatures, and a row of floats (newly turned to bend around the islands) lined with birds. The Double-crested Cormorants have definitely gone Elsewhere to breed this year, leaving the bare tree with one ragged remnant nest from last season, but that didn't stop a couple of dozen black adults and variously bronze and beige juveniles from stopping by for a snack and a snooze on the floats. The lake was full of tiny fishies when we arrived; constant attention from hungry flappers-by meant there were substantially fewer by the time we left, but not enough to make a visible difference.

As a special treat, four Snowy Egrets landed in the shallows beside the beach at our meeting spot and proceeded with a sort of high-stepping dance, flaring their crests at one another between fish-snarfing strikes at the water – leading to earnest discussion as to whether they meant bonding or mutual aggression. Then two Black-crowned Night-Herons flew past with nesting materials, probably heading for the downtown rookery. (It's not that they can't see what a nice nesting place the islands offer, so the lure must be something else available away from the lake. Kentucky Fried Chicken, perhaps.) And filling out the day's heronry collection, a juvenile Great Blue perched low in the bare island tree, lining up so well with one of the pale upright trunks that it was almost – but not quite! – invisible.

A Greater Scaup drake swam near the islands (the first in May for ten years), and later we saw a Lesser drake on the other side of the islands (nine years from the last May visit for that species), partially making up for the total absence of grebes and coots and other expected visitors for the month. They were the last of the winter migrants, though; even the Ruddy Ducks (which made it to May last year) were gone.

On the other hand, lots and lots of pelicans, both brown and white and both adult and juvenile, were visiting the lake, crowding the last island, the eastern side of the floats, and the Embarcadero trash barrier. And the air was buzzing



with Northern Rough-winged Swallows, swooping back and forth and darting in and out of crevices in the builtup sections of the lake edges. Two of these little brown jewels landed on the rim of the lake just across the path from our patch of shade and looked around calmly for several minutes, ignoring a steady stream of joggers and strollers within feet of their perch.

The day's best bird for me was another swallow: a Violet-green that landed on a bare oak branch and sat catching the sun at the exact angle to turn on the lights inside his back. The main field mark for these birds is the white on their sides behind their wings that lets us tell them from Tree Swallows – both species normally so dark you can't read the difference between their main colors – but here we could revel in the peridot-green and amethyst tones behind that well-earned name.

"What's all yellow, except for dark wings and a head that's all bright red?" someone asked, describing what was doubtless *her* day's best bird. "That has to be a Western Tanager!" says I, promptly leading an expedition among the trees along Bellevue to try for another sighting. "I thought so, but didn't want to claim it," she replied modestly, trailing after, but we couldn't catch another glimpse.

Also seen, though once again not by me, were White-throated Swifts for a second month in a row, and another Mourning Dove and a White-crowned Sparrow too, and someone who ought to know swore he heard a Purple Finch. All in all, collectively we picked up 38 species – a new record, beating the 2021 total by 1 and leaving the prior record of 33 in the dust. And so, delightfully but not unexpectedly, yet another very good day at Lake Merritt, where every day is a jewel to be treasured. ***

Well At Least It Wasn't Quite So Hot at Lake Merritt – by Hilary Powers – Golden Gate Audubon



The June 4th-Wednesday Golden Gate Audubon walk fell on the day after a very very hot day by the bay, and the 14 assembled birders managed to enjoy the fairly hot sun in the open and the almost cool breezes under the trees. Lots of Double-crested Cormorants lined the floats or swam in little groups, and one perched high in the bare tree with wings spread wide to dry – but again, we saw no sign of nest-building in the trees.

Crowds of pelicans, both brown and white, perched and swam and flew about doing pelican things, making a serious but probably unsuccessful attempt to put a dent in the lake's fish population. The Brown Pelicans were mostly juveniles –

some clearly hatch-year birds, all brown as mice except for a bit of cream on the belly, but some showed edges of white around the beak and back onto the head: adult plumage on the way. (Yet another wonder of bird-naming: adult Brown Pelicans aren't brown at all; they have gray bodies and white heads and necks in their basic plumage, which is mostly what we see here.)

The hottest moment had nothing to do with the sun.... "What are they *doing?*" someone demanded, as a plume of squirrels spewed out of one of the little trees near the playground and hung there, moving but not going anywhere. "Making more squirrels," I breathed in awe, as it resolved itself into four parts: one squirrel hanging from a branch by her (yes, her) front paws, another hugging her and pumping away, and two more agitating from the sides as though hoping to get into the action. In the stretched-out time you get with OmyGod, *IneverSawThatBefore*, it seemed like they all floated there for minutes, though it was probably no more than seconds all told. "Well, *that* was the sight of the day," we murmured, heading on down the lake toward El Embarcadero.

The lawns were as usual in June full of gray-brown feathers. Molt migration is in full swing, though not as busy as it has been. Merely hundreds of extra Canada Geese are rambling and swimming around the park, instead of the thousands seen in years past. This was a good day to look at them, as many have entered the regrowth phase. Their new primary feathers are visible as rows of sky-blue quills a few inches long, making flat panels on their wings – the color so different from everything else about the birds that it looks like a problem rather than a natural stage of life.

A pair of fledgling Nuttall's Woodpeckers were prospecting one of the big sycamore trees between Bellevue and the lake. Woodpeckers are always a treat to watch at work – they seem somehow graver and more full of purpose than flycatchers or warblers – and these were particularly interesting, being babies that already knew their job. (We could tell they were very young because they were still wearing their red baby caps. When they fledge, all Nuttall's Woodpeckers have red feathers on the forehead; all lose them at their first molt, then, when they turn adult, the males develop red patches farther back while the females stay black and white.)

There's a little snag (a bare branch) at the top of one of the oaks near the lake along Bellevue that's always worth a look – everybody likes a perch with a good view and lots of cover nearby. Today, three black birds were sitting companionably against the sky. Now, a black bird is not at all necessarily a blackbird; here, we had three male brown-headed Cowbirds: truly elegant birds, shimmering black with heads as dark and shiny but brown, with a very bad rep. Instead of raising their own young, their females leave eggs in other birds' nests... then hang around in the background to make sure they know what species they are and don't identify with their foster parents. Natural for them, but it gives people the horrors.

Great Egrets joined the Snowies for the first time this year (they've been here, just not on a 4th Wednesday

morning), but the Great Blue Herons didn't show up. Neither did the Green Herons – much hoped-for, as they've been reported on the island rip-rap lately. Ups and downs are a feature of birding, of course, but we got more than our share of downs on this trip. I'd walked the same route the day before and saw flocks of House Sparrows that were out of sight this time, and the persistent male scaup was still around (a solid two months after most of the rest took off) then, but gone this morning. So in the end we counted only 28 species – down a solid 10 from last year – partly because we were down one leader and one regular scope-carrying expert, but mostly just the breaks of the game. But nonetheless it was another lovely day at Lake Merritt, and more exciting than most....

Did you miss Hilary's April 1st Lakeside Chat? You can catch it anytime on YouTube at https://youtu.be/Ux8MHX8JPyo. Hilary Powers any fourth Wednesday of the month for a free "Bird walk" at the lake. Muster at the geodesic bird cage near the Nature Center at 9:30 a.m. for what are always fascinating introductions to lake birdlife.

<u>CLIMATE CORNER</u>: HOW BAD IS THE CLIMATE CRISIS? WHY? ... FOLLOW THE MONEY. WHAT TO DO?

A guest editorial by Dr. Richard Bailey

Following are quotes from two articles. The first is by Dr. Katharine Hayhoe, chief scientist for the Nature Conservancy in the US, co-author of a best-selling book (A Climate for Change: Global Warming Facts for Faith-Based Decisions), and a distinguished professor at Texas Tech University.

Katharine Hayhoe says the world is heading for dangers people have not seen in 10,000 years of civilization. She warns that if we continue emitting greenhouse gases no adaptation will be possible.

The world cannot adapt its way out of the climate crisis, and counting on adaptation to limit damage is no substitute for urgently cutting greenhouse gases.

People do not understand the magnitude of what is going on," she said. "This will be greater than anything we have ever seen in the past. This will be unprecedented. Every living thing will be affected.

The world's leading climate scientists, the Intergovernmental Panel on Climate Change, warned earlier this year that continued global heating, beyond 1.5C above pre-industrial levels, would <u>wreak devastation across the globe</u>, ... with swathes of the planet becoming unsuitable for agriculture and effectively uninhabitable, causing extreme harm to human society in many places.

The reality is that we will not have anything left that we value, if we do not address the climate crisis.



Carbon cap and trade schemes have not reduced the amount of greenhouse gases in the atmosphere.

Building higher sea walls and shelters, trimming trees around power lines, and keeping climate immigrants out will not slow climate change.

We are left with an increasingly dire series of climate disasters.

Why? We have a climate crisis based on burning fossil fuels. So, what is happening in the fossil fuel world?

The second article, by Catherine Rampell, points out that, despite the misleading rhetoric from one political party (you know who), the US HAS achieved energy independence. So why are we paying \$6 a gallon for gas?

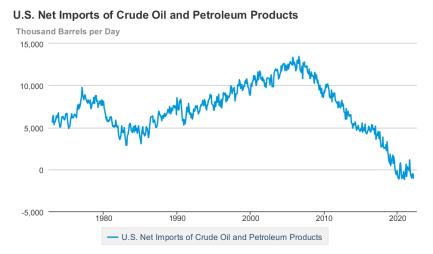
The answer is that we have energy independence. We just don't have independence from oil companies.

Energy independence" has turned out to be a hollow victory. ... Since last October, we've been exporting more than we import each month, according to <u>data</u> from the U.S. Energy Information Administration, an independent government statistical agency. That is, we got back to "energy independence.

Despite this prized achievement, U.S. petroleum prices remain painfully high. That's because even if we can meet all our consumption needs with domestic production, oil prices are still set by global markets. If a major world supplier such as Russia suddenly gets taken offline, that drives global prices up...

Way up. We've seen it at Exxon, Shell, BP, and Chevron stations, where prices are \$6 and even \$7 a gallon. Since we are energy independent and the money is not going to Russia, where is it going?

Follow the Money: Shell made \$9.1bn in profit from January to March, almost three times what it made in the



same period last year, while Exxon raked in \$8.8bn, also a near threefold increase on 2021. Chevron upped its profits to \$6.5bn and BP reveled in its highest first-quarter profits in a decade, making \$6.2bn. Coterra Energy, a Texas-based firm, had the largest relative windfall of the 28 companies, with a 449% increase in profits on last year, to \$818m.

eia Source: U.S. Energy Information Administration

 $(\underline{https://www.theguardian.com/business/2022/may/13/oil-gas-producers-first-quarter-2022-profits}.$

So even though the U.S. is not importing foreign oil, prices are way up and fossil fuel companies are rolling in cash. This is called price gouging.

As Catherine Rampell said, "We can't control what the Russians do. We can't control what the Saudis do." (And our political leaders won't control the oil companies). "What we can do is electrify everything and make sure the electricity we use is cheap. That's the solution if you want to stick it to oil companies" ... "It's also the solution if you want abundant, inexpensive and truly independent energy sources." That means solar panels, heat pumps, electric transportation, batteries, a better grid, leaders that represent us (not the oil companies), and utilities that don't try to hamstring the solar industry.

What can we do? But as Katharine Hayhoe pointed out, we cannot adapt our way out of the climate crisis. This is because as long as fossil fuels are cheap, people will keep buying them. The answer is to charge the fossil fuel companies an annually rising fee on oil and gas, levied not at the cash register, but at the mine, well, or port of entry, which will make other countries adapt a similar fee – hint; they already are. Knowing that their product will soon be priced out of the market by renewable energy, the companies now receiving huge government subsidies and price gouging us, will invest in solar, wind, batteries, and the grid, instead of fracking more wells. Economists agree this is the best way to solve the climate crisis.

https://www.theguardian.com/environment/2022/jun/01/we-cannot-adapt-our-way-out-of-climate-crisis-warns-leading-scientist?

https://www.washingtonpost.com/opinions/2022/06/07/energy-independence-oil-gas-renewables/?

Please direct questions and comments to The Tidings Editor, Katie Noonan, at ktnoon@aol.com.

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