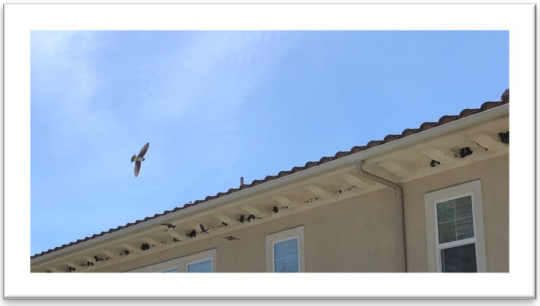
CINC Channel Islands Neighborhood Council

MAC Marine Advisory Committee

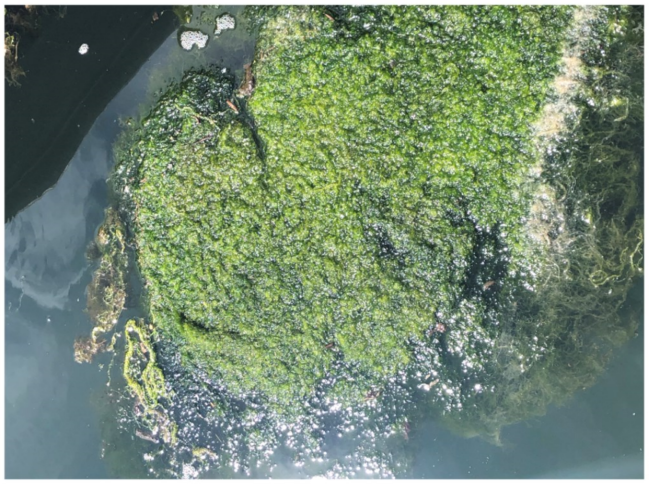
CINC & Harbor Water Quality Report Issue: 05.01.20 Pg. 1/4



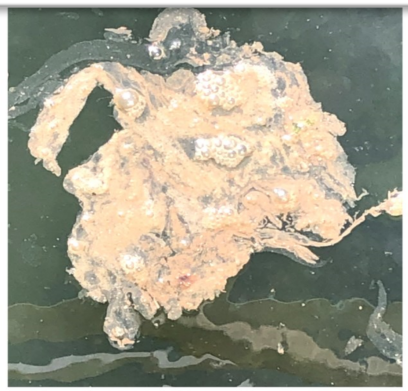
Swallows Return to Westport

In Westport the swallows have returned for the second year. This is an evolutionary marvel, but also an infestation of hundreds of messy birds covering the corbelled eves of some homes with mud nests. *Note - it is illegal to remove "active" nests until early fall. Netting installed on your home's eves before next season should work. For more info on wildlife management:* (https://www.fws.gov/policy/a1m0407.pdf)

Algae Returns



Hot days warms harbor water, rising from 65 to 70 degrees in one week. The best and only thing we can proactively do for the marine life is to pull out as much algae "sea lettuce" as possible. This week the algae looked like a different variety than last year—it was much more feathered, less lettuce like. Wear gloves, harvest the algae carefully by raking it out and let it dry on your docks, before putting in the trash.



We consulted with ABC Labs' Dr. David Caron about the brown blob-like stuff floating and bubbling in the harbor. ***"Organic material (which is often less dense than the water, can float and accumulate in backwater regions or downwind sections of harbors and bays. It is not necessarily harmful, but it certainly isn't aesthetically pleasing (and too much of it could cause oxygen drawdown). Depending on where it is showing up, it could also be coming from plant/algal/cyanobacterial material building up in the canal (the biomass is quite high there), and flowing out of the canal during ebb tide, accumulating in backwater or downwind locations in the harbor. Many algal mats in quiescent places (like the canal) can accumulate air or oxygen bubbles, causing them to float to the surface. Even Ulva (the 'green lettuce' algae that has been abundant in the harbor) can catch bubbles and float up if it is dislodged from the bottom, and will then get bleached by the sun forming 'cakes' like this."***

CINC neighbors Share Good Cheer

Our harbor 's boating and paddling flotilla of at least 70 celebrate spring as a happy hour "splash mob". Watch Facebook and Next Door to join, watch and wave. One friend said the experience brought her to tears.

Photo courtesy of Victoria, Mandalay Bay.

Water Quality Update:

Remote Sensors Back in the Water! So much of what impacts our harbor's water quality has to do with seasonal change. The last week of March, the City contracted with ABC Labs to redeploy, after calibration in the lab, two remote sensors in Westport and in Seabridge. The sensors primarily measure and record the Chlorophyll and 'DO' dissolved oxygen levels in the two canals that have the longest residence times in the harbor. A DO below 5mg/L is considered marine-life threatening.

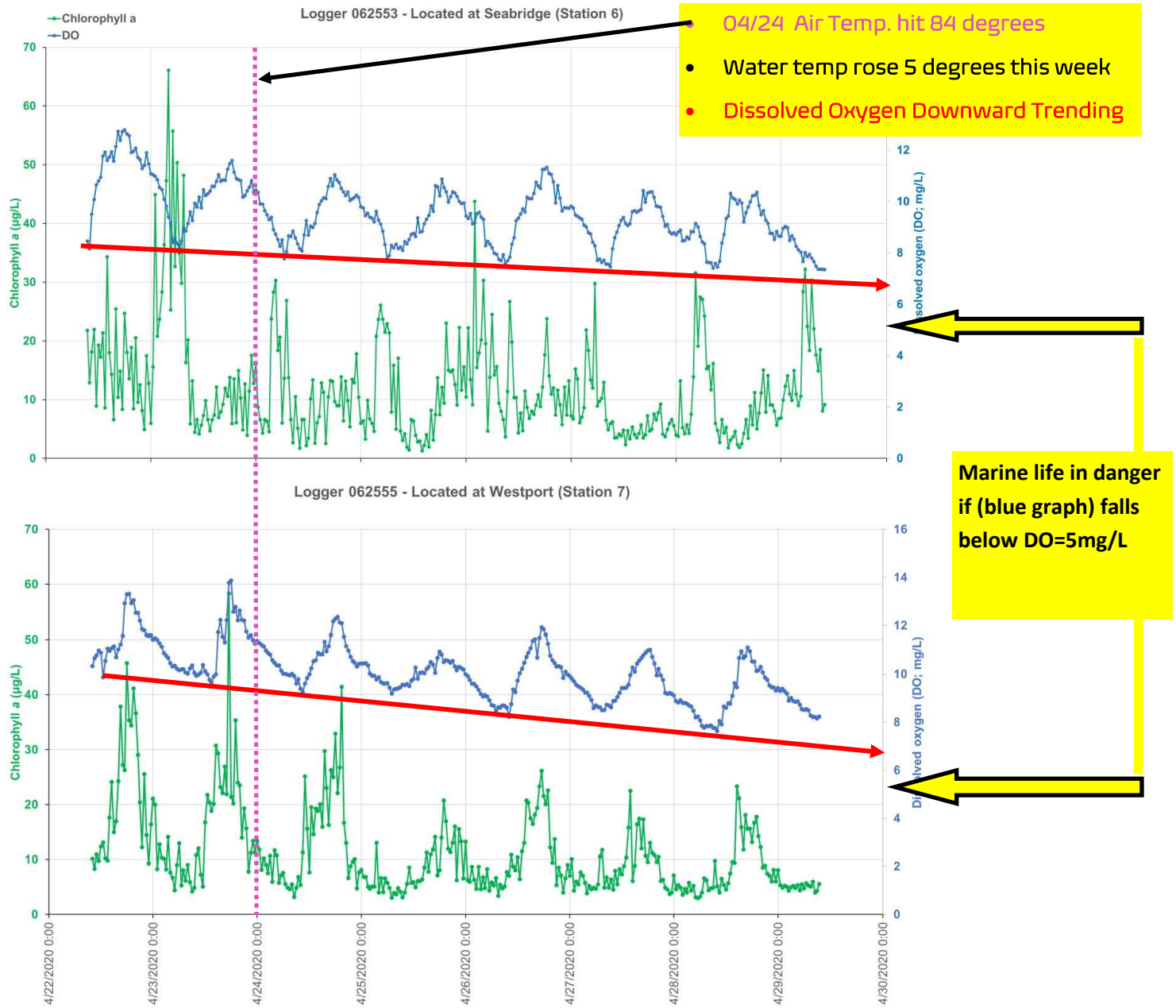
See the chart data (page 3) collected by the sensors. It tells the story graphically: warm weather does impact our harbor's water quality. While the scientists say the daily numbers are 'acceptable', the chart is trending downward and needs watching.

Water Quality Monitoring in other Cities:

In case you were wondering what are other cities in the U.S. are doing about their harbor water quality, page 4 is a fine excerpt of the definitions of harbor water quality terms and a link to read more about NYC's best practices.

CHANNEL ISLANDS HARBOR WATER QUALITY: REMOTE SENSOR DATA – 04/22/20 THROUGH 04/29/20

Below is the remote sensor data for the period from 4/22/20 to 4/29/20. Acceptable concentrations of dissolved oxygen (DO; in blue), along with normal daily oscillations of chlorophyll (a proxy for microscopic algal biomass, in green) concentrations were observed at both stations. The City of Oxnard and Aquatic Bioassay & Consulting are continuing to monitor the water quality conditions in the back basins using the remote sensor data.



- 04/24 Air Temp. hit 84 degrees
- Water temp rose 5 degrees this week
- Dissolved Oxygen Downward Trending

Marine life in danger if (blue graph) falls below DO=5mg/L

Weekly sensor data:

https://**www.oxnard.org/city-department/publicworks/channel-islands-harbor-water-quality/**

New York City Embraces State-of-Science

SYNOPSIS OF MAJOR INDICATORS OF ENVIRONMENTAL CHANGE

Dissolved Oxygen - The oxygen dissolved in the water column is critical to respiration in most aquatic life forms, including fish and invertebrates, and is one of the important indicators of overall water quality. Where geography allows, DEP scientists measure the amount of oxygen dissolved in water at both the surface and the bottom of the water column.

Bacteria - Concentrations of certain bacteria are measured as human health-related indicators of harbor water quality. Fecal coliform bacteria are found in human and animal intestines and are associated with wastewater. Enterococci are a subgroup within the fecal streptococcus group and are distinguished by their ability to survive in salt water. DEP scientists measure concentrations of the two groups of bacteria.

Secchi Transparency - To estimate the clarity of surface waters, DEP scientists record the visibility of Secchi disks lowered into the water. High Secchi transparency (greater than 5.0 ft) indicates clear water, and reduced transparency is typically due to high suspended solids concentrations or plankton blooms. These conditions lead to light-limiting conditions, which affect primary productivity and nutrient cycling.

Chlorophyll 'a' - Chlorophyll 'a' is a green pigment vital for photosynthesis, which allows plants and algae to obtain energy from light. It can be used as an indicator of the health of an aquatic ecosystem's primary producers whose overgrowth can indicate eutrophication. This condition, caused by excess nutrients, can lead to negative secondary impacts like reduced light penetration, low dissolved oxygen, and the formation of hypoxic or "dead" zones. In coastal ecosystems, nitrogen is the limiting nutrient, so sources of nitrogen discharge are important to understanding eutrophication in salt water.

Nitrogen - Nitrogen is a major building block of plant and animal proteins, as well as a key nutrient for all types of life and commonly used in fertilizers. Excess nitrogen can promote the growth of harmful algae and reduce levels of dissolved oxygen. Nitrogen is not a pathogen and poses no threat to human health. In 2002 the City began upgrading wastewater resource recovery facilities to remove nitrogen from plant effluent and continues to construct additional nitrogen control facilities.

Want to find out what New York City is doing to improve their waterways? Study the full environmental report:

Google: 2018-new-york-harbor-water-quality-report

Read More / Share with New Neighbors / Sign Up:

www.cineighbors.com

Our next CINC meeting scheduled for May 28th is cancelled. The Board, meeting by Zoom, will continue best efforts for community outreach.

If you have concerns, a story to share or harbor photos please email them to: cineighborhoodcouncil@gmail.com