

Update on OC San's COVID-19 Sewage Surveillance Efforts

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OC SAN
ORANGE COUNTY SANITATION DISTRICT

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Presentation

- Introduction to sewage surveillance
- OC San, SWRCB/CDPH, and CDC efforts
- Next steps
- Acknowledgement

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Sewage Surveillance

What is sewage surveillance (WBE)?

- Measure microbiological markers in wastewater
 - Community-level infection
 - Augment clinical surveillance
 - Inform on public health interventions

How is it used during COVID-19?

- SARS-CoV-2 markers shed in feces (symptomatic/asymptomatic)
- Early and unbiased indicator of changes in community infection
- Variant detection

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Early Days – A lot of Unknowns

The diagram illustrates the progression of information about COVID-19 from an initial article to a follow-up article. It features two newspaper clippings connected by a blue arrow pointing from left to right.

Left Clipping (Initial Article):

Scientists are unsure of coronavirus effects at the beach

By ROSANNA XIA
APR 2, 2020 | 07:00 AM
UPDATED 07:18 AM

██████████ a leading atmospheric chemist at the Scripps Institution of Oceanography, wants to yell out her window at every surfer, runner, and biker she spots along the San Diego coast.

"I wouldn't go in the water if you paid me \$1 million right now," she said.

The beach, in her estimation, is one of the most dangerous places to be these days, as

Right Clipping (Follow-up Article):

In a Los Angeles Times **interview** early last week, ██████████ was quoted as saying, "I wouldn't go in the water if you paid me \$1 million right now." She posited that SARS-CoV-2, the virus that causes COVID-19, could enter the ocean — through raw or poorly treated sewage — and then get kicked back into the air along the surf zone.

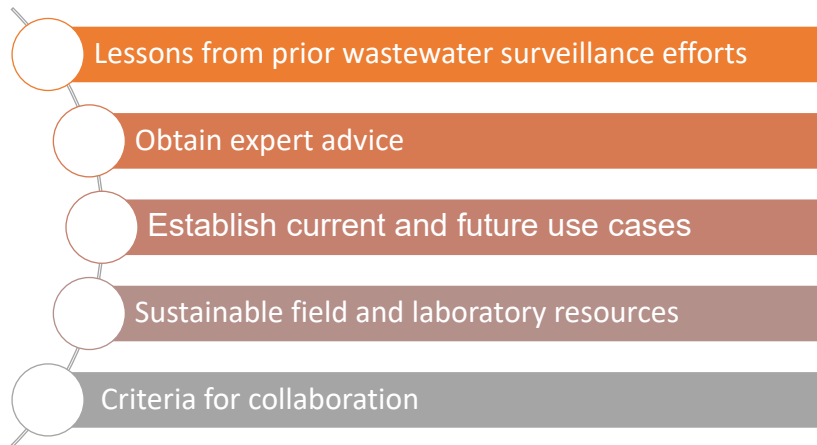
But new research published after the interview has changed her thinking. The research includes an **accelerated publication of a study in the journal Nature, which found that the virus did not appear to remain infectious in fecal matter.**

"The main exposure risk to the water recreation community remains sewage pollution and urban runoff into the ocean, which can increase after major storms such

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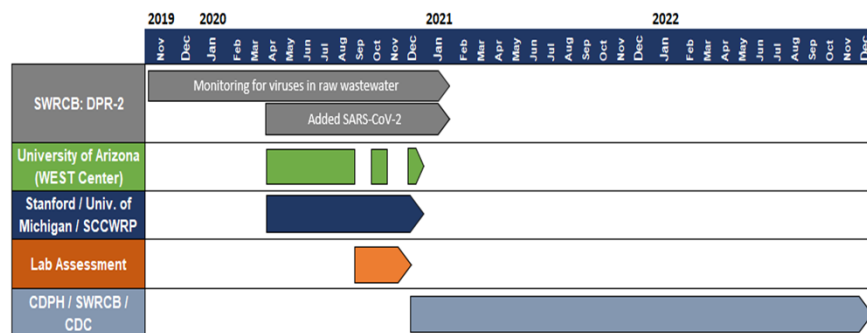
Wait or Innovate?



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OC San Efforts

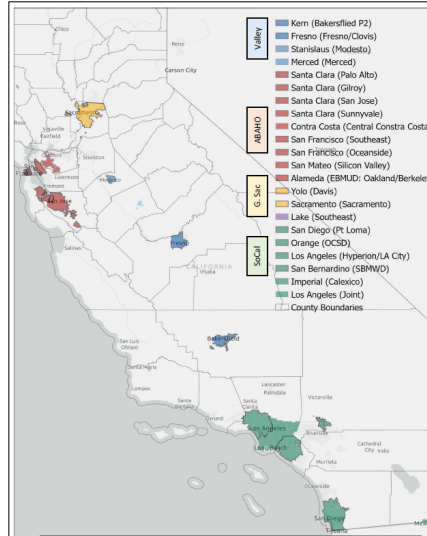
- Started with 4 partners and narrowed down to lab that met our needs
- Current partnership with CDPH and SWRCB to support CDC NWSS



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California and National Efforts

- California NWSS
 - Part of CDC's NWSS
 - Began 12/2020 with 5 largest wastewater agencies
 - Currently includes 22 agencies
- Monitor sewage for SARS-CoV-2 marker and variants
- Data transmitted to CDC NWSS portal

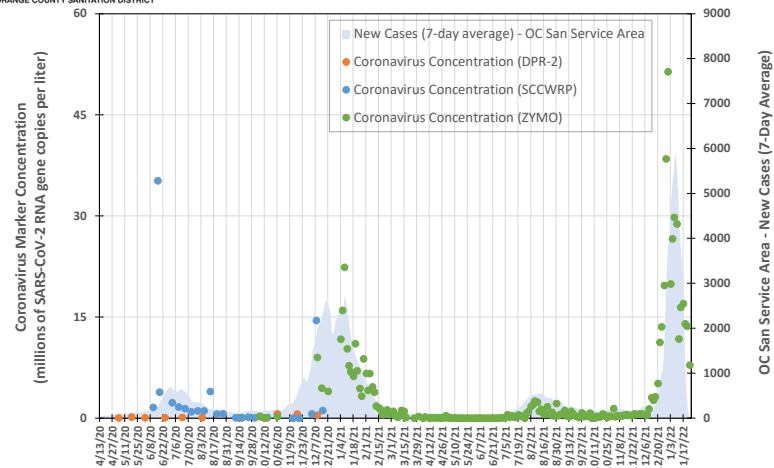


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OC San Sewage Surveillance



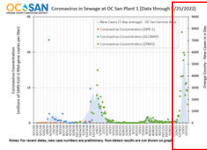
Coronavirus in Sewage at OC San Plant 1 (Data through 1/24/2022)



Notes: For recent dates, new case numbers are preliminary. Non-detect results are not shown on graph.

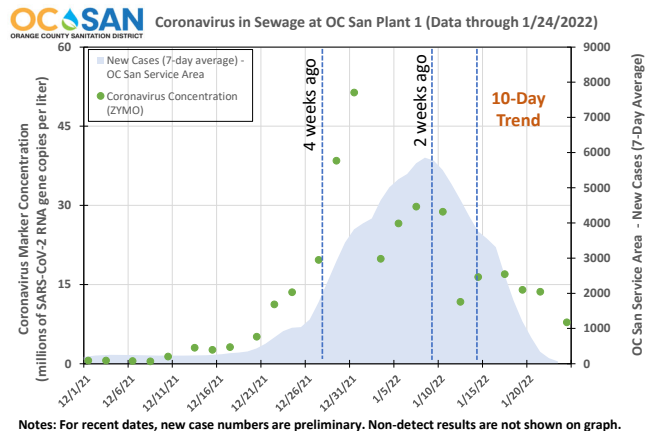
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OC San Sewage Surveillance



Past 2 months

- Last 10 days: **decreasing**
- Levels **lower** vs. 2 weeks ago
- Levels **lower** vs. 4 weeks ago



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Looking Ahead

- Continue to partner with CDPH and SWRCB to support CDC NWSS
 - Test sewage 3x/week through December 2022
 - Continue surveillance and add variant monitoring



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Statewide Recognition for OC San



STATE WATER RESOURCES CONTROL BOARD RESOLUTION NO. 2021-0049

RECOGNIZING WASTEWATER TREATMENT UTILITIES' VOLUNTARY
CONTRIBUTIONS TO MONITORING FOR COVID-19 IN WASTEWATER



CALIFORNIA WATER QUALITY MONITORING COUNCIL RESOLUTION NO. 2021-0001

WASTEWATER-BASED SURVEILLANCE OF COVID-19

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CDC Public Dashboard

<https://covid.cdc.gov/covid-data-tracker>

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

COVID Data Tracker

United States
At a Glance

Cases Total
76,415,622
Last 30 Days

Deaths Total
899,756
Last 30 Days

86.4% of People 5+ with At Least
One Vaccination

Data Tracker Home

COVID Data Tracker Weekly
Review

Your Community

Health Equity Data

Pediatric Data

Pregnancy Data

Vaccination Delivery and
Coverage

Vaccine Effectiveness and
Breakthrough Surveillance

COVID Data Tracker

Find maps and charts tracking cases, deaths, and trends of COVID-19 in the United States, updated daily by 8 pm ET

Recent updates:

- The new [COVID-19 Wastewater Surveillance](#) tab displays data on SARS-CoV-2 RNA levels by county and across the United States.
- The [Vaccinations in the U.S.](#) tab now displays the count and percent of the population 12 years and older that has received a booster dose and the eligible population that has not yet received a booster dose.
- The [Vaccinations in Dialysis Facilities](#) tab now displays data on trends among staff and patients at dialysis facilities who received additional primary or booster doses, over time and by state.
- The [COVID-19 Cases and Deaths by Vaccination Status](#) tab was updated to display rates of COVID-19 cases and deaths by vaccination status, with and without a booster dose, for people ages 18-49 years old and by primary series vaccine product.
- The [COVID-19 Vaccine Effectiveness](#) tab includes a new data source (ICATT), which includes individuals who were tested at pharmacies. New visualizations include vaccine effectiveness against infection and vaccine effectiveness against hospitalization.

Community Transmission in the US



County level community transmission

State level community transmission



COVID Data Tracker Weekly Review
An interpretive summary of this week's data

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Acknowledgements

- Margil Jimenez –Scientist
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Questions



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