

110 Years

CAWD Connections



"Protecting your health and the environment since 1908"

CONSUMER NEWS FROM YOUR CARMEL AREA WASTEWATER DISTRICT

FALL/WINTER 2020

Coronavirus update

Minimizing fees in difficult times

Your Carmel Area Wastewater District continues to meet the challenges of the COVID-19 pandemic with budget tightening, ongoing safety precautions, and a new testing program that detects the virus in our community's wastewater. To ease the financial burden on customers during these challenging times, your elected board of directors rejected the recommended rate increase set by the State Water Resources Control Board model, and instead asked staff to cut budgets to help reduce fees as much as possible. We were able to cut nearly \$691,000 from our operating budget, which decreases the rate hike from \$5.06 to \$2.17 per month for residential users, with a similar reduction to our other customer categories.

"After careful evaluation in all departments, we were able to identify operations and maintenance expenditures that we could safely defer to a later date without impacting plant safety," said CAWD General Manager Barbara Buikema. "While we've delayed some projects, we have not reduced our high standard of service, spill prevention, or environmental safeguards."

To further reduce costs to customers, CAWD has applied for a FEMA grant to offset the expense of compliance with COVID-19 guidelines.

All safety precautions remain in place at the treatment plant, with additional protective gear, stepped-up disinfection procedures, and staff working staggered shifts. We anticipate opening our administrative offices to the public by early November, with the addition of a new vestibule with acrylic safety shields.

Monitoring the coronavirus

As reported in local media, CAWD and the Santa Cruz Wastewater Treatment Facility were the first to implement testing in our region for the SARS-CoV-2 virus that causes COVID-19. Since July 5, we have been collecting a 24-hour composite sample from our wastewater influent every week. The sample is sent to (Cont. on flip side)



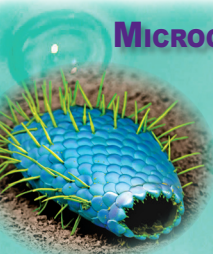
CAWD Laboratory Supervisor Ray DeOcampo prepares influent samples for coronavirus screening. Wastewater testing can predict COVID-19 spikes in advance by monitoring the concentration of the virus over time.

MICROORGANISM OF THE MONTH

MEET "EUNICE" EUGLYPHA!

Amoebas live everywhere: in soil, ponds, forests . . . and the CAWD treatment plant. "Eunice" *Euglypha strigosa* and other species are common in our biological treatment system, where they eat bacteria, phytoplankton, and other organic matter to clean our wastewater.

Amoeba are far more sophisticated than the single-celled blob of crawling protoplasm that their name conjures up. Shelled or "testate" amoebas like Eunice build elaborate, fantastical homes to protect themselves. Eunice is covered in rows of circular scales with serrated edges, with spines protruding outward. To move about, she extends her filopodia (threadlike pseudopods) out of the many tiny holes in her shell. (Cont. on flip side)



This colored electron microscope image of an *Euglypha strigosa* shell shows the amazing plates and spines that the amoeba creates to protect itself.

Image by Maxence Delaine, PhD



New—get your permits online!

Contractors and property owners can now conveniently obtain lateral line and sewer connection permits online at cawd.org! Use your computer or mobile device to complete the form and submit payment, and we will email your permit as soon as insurance is verified, as quickly as one hour during regular operating hours. Questions? Please call 624-1248—we are at your service!

Presorted Standard
PAID
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Watsonville, CA
Permit No. 30

Carmel Area Wastewater District
3945 Rio Road
Carmel, CA 93923
831/624-1248





Robert Bowman checks a CAWD pump station near Carmel Beach.

Your award-winning district staff

We congratulate CAWD honoree **Robert Bowman**, chosen as the 2020 Collection Worker of the Year! Robert was recognized by his peers in the California Water Environment Association (CWEA) as the best in the Monterey Bay Section, a large area extending from Morgan Hill to King City. Recipients are chosen for their professional accomplishments and excellence in protecting public health.

"My job is very rewarding because I know the work I do each day is vital for the well-being of the community," said Robert. "It's also an honor to work with the awesome CAWD Collections team—everyone here is highly skilled and always ready to lend a helping hand."

"There's a lot to know: confined space rescue, trench safety, traffic control, specialized equipment . . . and we are always supported and encouraged to further our training and education. The pool of knowledge in the Collections Department is pretty impressive. We're confident we can solve any challenge we come up against."



Carmel Area Wastewater District

3945 Rio Road, Carmel, CA 93923
(831) 624-1248 ■ cawd.org

Free 24-hour sewer back-up service: Call 624-1248; after 5 pm, please call Carmel Police Department at 624-6403. If water is backing up into your tub or toilet, it is an emergency. Call us immediately, day or night!

CAWD is a special district dedicated to protecting public health and the environment with the cost-effective collection and treatment of wastewater and the return of clean water to the environment.

We invite the public to attend CAWD board meetings, held the last Thursday of each month at 9:00 am at the CAWD office.

Board of Directors

- Greg D'Ambrosio
- Charlotte Townsend
- Michael Rachel
- Ken White
- Robert Siegfried

General Manager
Barbara Buikema

"Bug of the Month" © Anne Muraski 2001-2020

Coronavirus *(Cont. from page one)*

Biobot Analytics, a Massachusetts company which is analyzing samples from all over the country. Since people harbor the virus before symptoms appear, wastewater testing is a cost-effective, non-invasive way to predict outbreaks before they happen.

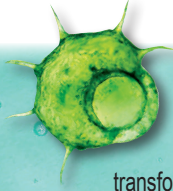
CAWD samples show higher concentrations of the virus when there is an influx of visitors to the area. After the July 4 holiday weekend, 90,000 coronavirus particles were detected per liter of sewage, which fell to 17,000 particles one week later. There was a similar spike after Labor Day. As with all pathogens that enter the CAWD plant, the coronavirus is completely eliminated during the treatment process.

"We will continue to test as long as it is of benefit to the public," said Barbara. "The message is clear that we all need to stay vigilant and continue to socially distance, wear masks, and wash our hands to protect ourselves, our families, and the community."

As the pandemic continues, we encourage customers to visit cawd.org to use our new online permitting system (see side bar, page one), attend board meetings via Zoom, and view weekly results from CAWD's coronavirus testing project.



Disinfection destroys any viruses or pathogens that might remain in CAWD effluent after primary and secondary treatment. After that, treated wastewater undergoes another tertiary filtration before entering our cutting-edge microfiltration/reverse osmosis system (shown there), which produces pristine recycled water for irrigation.



Microorganism *(Cont. from page one)*

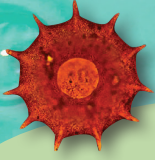
Shell building is just one of many amoeba talents. Some species can change form, swimming and gliding with a tail-like flagella, then transforming into a crawling amoeba when they find food. Others can punch holes in their prey, or even slice open an algal cell like a can opener, reaching in a pseudopod to pull out a meal.

Dictyostelium discoideum grazes on bacteria in the soil, but when food runs out they leave their unicellular life, joining together to form a conglomerate "slug," or slime mold, that can crawl upward to reach light. At that point, about a fifth of the population sacrifices itself to create a delicate stalk which the others climb. The climbers form a fruiting body with a spore that looks like a ball atop a floppy wire. Wind, animals, and insects carry the spores to more fertile hunting grounds. When the spore cracks open, the amoebas inside strike out in search of food. Yet some amoebas have packed a lunch from home: bacteria they ate before leaving is still alive, left undigested with help from a different bacteria that lives inside of them. Scientists suspect that they seed their new home with the undigested bacteria so it multiplies to create a new food source—like a farmer planting a new field.



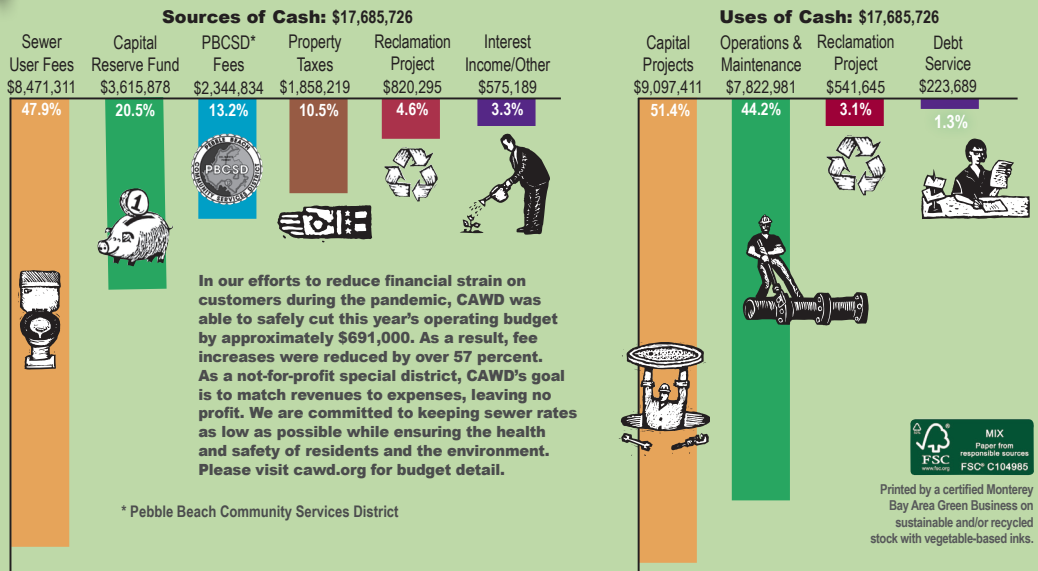
JOINING FORCES TO SURVIVE
Tens of thousands of microscopic Dicty amoebas join together to form a visible "slug" up to 4 mm long. They form a stalk with a spore on top which insects and animals unknowingly transport to better hunting grounds. Left: just a few of the astonishing diversity of shells built by testate amoebas.

Queller/Strassmann Lab - Photo by Usman Bashir, Dicty slug-Tyler J. Larsen/ Wikimedia Commons (CC BY-SA 4.0)



CARMEL AREA WASTEWATER DISTRICT BUDGET

July 1, 2019 - June 30, 2020



* Pebble Beach Community Services District



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