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Sewage overflows into San Francisco Bay and city streets during storms

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‘Don’t jump in puddles’: Sewage is overflowing into San Francisco Bay and city streets during storms

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Millions of gallons of storm water mixed with raw sewage made its way into creeks, the bay and city streets during recent heavy rainstorms that overwhelmed dozens of Bay Area sewers and some treatment plants.

Some raw sewage seeped out of manholes or backed up sewer drains, calling into question even the idea of kids splashing in their rainboots.

“Don’t jump in puddles. Especially in San Francisco — you want to be careful that there (could be) sewage in that,” said Eileen White, executive officer of the San Francisco Bay Regional Water Quality Control Board, referring to flooded areas when the city’s unique sanitary system that combines storm water and wastewater is backed up during heavy rain.

It’s too early to know the full impact of the atmospheric rivers that have hit the region recently, because complete records are not yet available. But municipalities are required to report to the state when they discharge untreated wastewater — and some information is emerging, especially about sewage spills during the New Year’s Eve storm, the second-wettest day on record in San

Francisco and [the wettest for Oakland](#) since at least 1970. Ongoing storms could cause similar incidents, creating public safety concerns.

Sejal Choksi-Chugh, executive director of advocacy organization San Francisco Baykeeper, said she “highly, highly recommends” that people avoid contact with the water in the bay right now, because untreated sewage contains bacteria and viruses that can cause sickness. Raw sewage can also cause sickness in fish and other wildlife, she said.

“Having this much raw sewage in the water at one time, it’s not a good thing,” she said. Once the sun comes out briefly, many people flock to beaches, where there may be discharge pipes from treatment plants.

White also recommended that even die-hard swimmers and surfers avoid the water. As for little kids playing in San Francisco puddles near backed-up storm drains, “You wouldn’t want them to go eat hot dogs (afterward) without washing their hands.”

So far, there have been 90 reports of unauthorized wastewater or raw sewage discharges around the Bay Area that occurred from Dec. 30 to Jan. 3, totaling 14 million gallons, White said. Another 30 incidents involving 8 million gallons of unauthorized discharges were reported for the storm on Jan. 4-5, she added.

That’s not a full picture, however, because San Francisco has not yet made its report about New Year’s Eve, when it experienced extensive flooding in homes, restaurants and grocery stores, White said.

“The Bay Area saw very large, unprecedented rainfall,” White said. “There were lots of violations, and there are more storms in the forecast.”

In the East Bay, 4.7 million gallons of stormwater mixed with raw sewage overflowed into the environment around New Year’s Eve. That’s a large amount but not unheard of; during a significant storm in October 2021, the East Bay Municipal Utility District discharged [4.3 million gallons of partially treated wastewater](#) from one of its facilities, according to a report from the San Francisco Regional Water Quality Control Board.

The recent spills were the result of aging wastewater infrastructure and the intense downpour, according to EBMUD spokesperson Andrea Pook.

During heavy rain, the sanitary system designed to be large enough to hold wastewater from toilets, showers and sinks becomes inundated with stormwater that finds its way into cracks and holes in old sewer pipes, both from various Bay Area cities and private property owners.

Because of that extra water, EBMUD was handling 13 times its average volume on New Year’s Eve, a “very, very extreme” amount, Pook said. If pipes fill up, manholes can leak or sewage can get into creeks, then flow into the bay.

“It’s the really big storms that make a disproportionate impact,” said Mary Cousins, regulatory program manager at Bay Area Clean Water Agencies, which represents 37 Bay Area treatment plants. “The capacity is based on a moment in time. It’s the peak flows that really matter the most.”

East Bay Municipal Utility District reported a total of three wastewater spillages on the morning of Dec. 31 from its overflow facilities, according to a [sanitary sewer spill advisory](#). These occurred around 9:30 a.m. into San Leandro Creek in Oakland, around 10:30 a.m. into the Oakland estuary near the Barnhill Marina and around 10 a.m. into the Oakland estuary at the foot of Alice Street in Oakland.

The spillages were untreated because the wastewater “didn’t make it to the wet weather facility or the wastewater treatment plant; it overflowed before it got there,” Pook said.

Sewage also overflowed out of three manholes in the East Bay, according to the advisory: near 1056 Eastshore Highway in Albany; at Page and Second streets in Berkeley; and at Broadway and Clement Avenue in Alameda.

No spills occurred as a result of the Jan. 4 and 5 storms, Pook said.

The San Francisco Public Utilities Commission did not provide details on any sewage incidents that occurred during the Dec. 31 storm.

Based on past experience, however, San Francisco’s Marina Green is not a place you want to go when it’s pouring rain. During the October 2021 deluge, SFPUC reported a release of [1.4 million gallons of wastewater](#) that overflowed its collection system and flooded Marina Boulevard, then entered the bay via storm drains in the Marina Green parking lot, according to the report from the San Francisco Regional Water Quality Control Board.

That was an “unauthorized discharge,” according to the water board. But the city has a permit to discharge stormwater mixed with a small percentage of wastewater in 36 places on the perimeter of the city when intense rainfall exceeds the capacity of its system, Joseph Sweiss, press secretary for the San Francisco Public Utilities Commission, said in an email.

However these so-called combined sewer discharges do not contain raw, untreated sewage, but rather partially treated wastewater. SFPUC updates a [San Francisco Beach Water Quality Map](#) to inform the public where these discharges have occurred recently and where bacteria levels remain high, according to regular water safety testing.

Treated or not, sewage can take from 72 hours to a week to get diluted and flushed out with the tides, Choksi-Chugh said.

“With these kinds of continuous rains back to back, we’re definitely looking at taking longer (for the pollution to dissipate) just because there’s a new inflow of pollution every few hours. Staying out of the water is definitely a good idea for the time being,” Choksi-Chugh said.

The recent sewage spills add to growing concerns about wastewater treatment after [nutrient-rich wastewater-fueled algae blooms](#) led to the deaths of tens of thousands of fish in the bay last summer. Similar [to the problem of capping nutrients](#), reducing spills would require expensive upgrades to dozens of the Bay Area's aging wastewater treatment facilities.

White noted that there is "major investment occurring at the state and federal levels" to prepare infrastructure like wastewater treatment for the extremes associated with climate change.

But much more needs to be done, Choksi-Chugh said.

"Otherwise we're looking at pollution getting into the bay and into our communities every single time it rains, and that's just not the way we want our community to have to be surviving," Choksi-Chugh said.

One of the issues for an agency like EBMUD is that it operates large sewage facilities by the bay that are fed by sewage systems from multiple cities, which is where a lot of stormwater gets into the system, said Cousins of Bay Area Clean Water Agencies.

"Many are in bad shape and more than 50 years old and have to be gradually replaced, but it might take decades," she said.

Still, Cousins said there has been a 50% reduction in sewer spills in the last 15 years, mostly due to fewer blockages in the system.

Going forward with the coming storms, it's unclear how many more sewage spills could happen, said White. Because the ground is saturated, the rain doesn't have to be as intense as on New Year's Eve to cause major flooding. And if power goes out, that can slow down operations at treatment plants.

"I'm hoping that the worst is behind us," she said. "But it's still early January. Who knows what the rest of the month has in store."

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