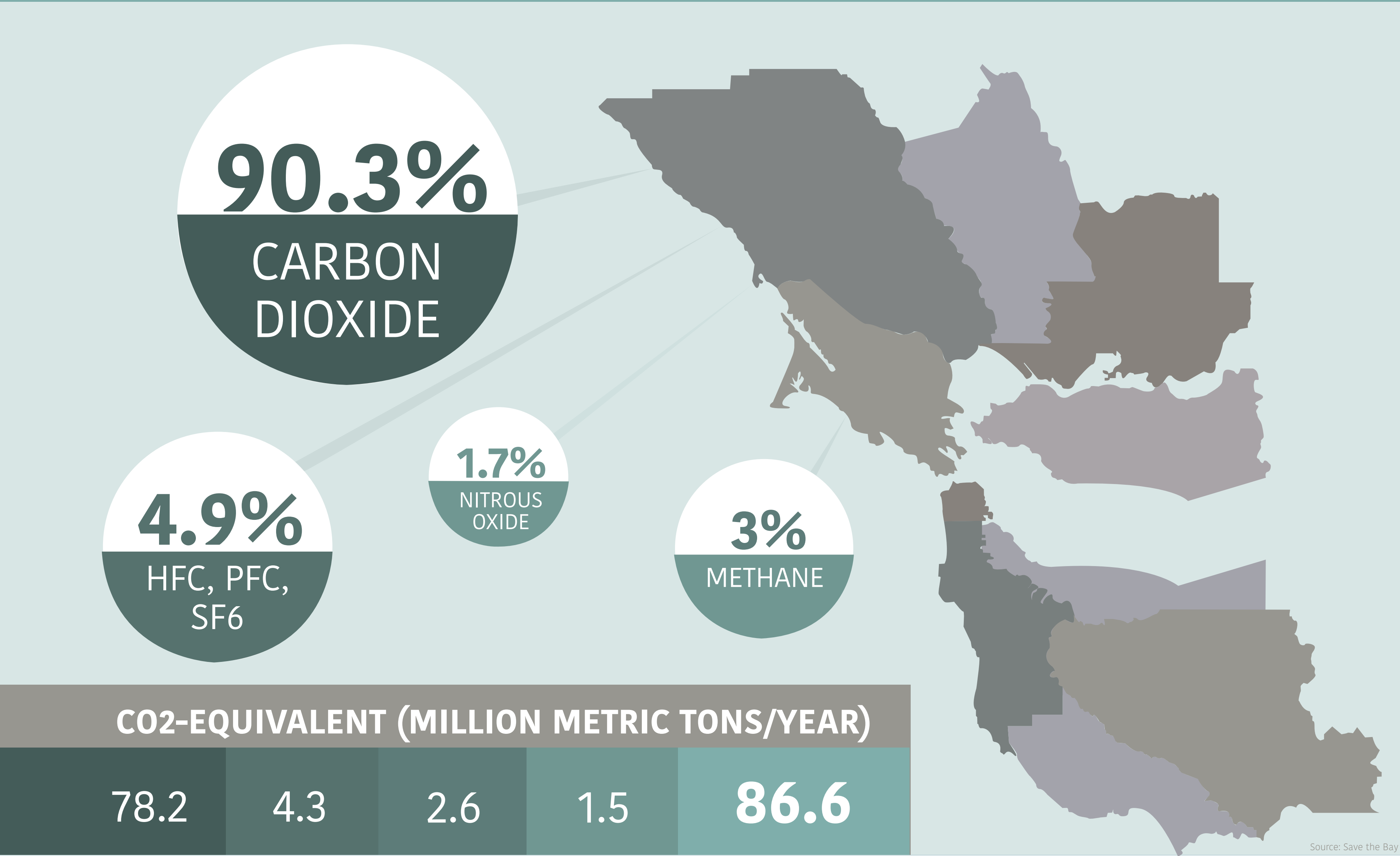


IMPACTS OF POLLUTION

IN THE BAY AREA



WHAT YOU CAN DO

RECYCLE

Go the extra mile to sort and separate items that can be recycled

REUSE

Make small changes such as your own reusable coffee mug, or shopping bag

REDUCE

Buy less to reduce the amount of manufactured items winding up as trash in the ocean

TAKE ACTION

Write to your legislation asking for policies that address our environment; clean up as a volunteer

Source: Ocean Conservancy

400 YEARS

is a long time to wait for the plastic bottles you throw away today to break down

The energy required to make **one** plastic bottle could recycle **ten** plastic bottles

Source: Save the Bay



PLASTIC POLLUTION: Billions of pieces of tiny plastic litter found in San Francisco Bay

Paul Rogers

San Francisco Bay is contaminated with widespread pollution from billions of tiny pieces of plastic in greater concentrations than the Great Lakes, Chesapeake Bay and other major U.S. bodies of water, according to a groundbreaking new study.

At least 3.9 million pieces of plastic pour into the bay every day from eight large sewage treatment plants – a relentless torrent of litter that ranges from tiny “microbeads” found in cosmetics, facial scrubs and toothpastes, to bits of synthetic fabric from fleece jackets, pants and other clothes, which break down as they are washed.

“We’re concerned about these high levels. This was unexpected,” said Rebecca Sutton, a senior scientist at the San Francisco Estuary Institute, a non-profit research center based in Richmond.

Not only does the plastic contaminate the bay and wildlife, experts say, it is also working its way up the food chain, binding to chemicals in the water and posing a potential health risk to people eating fish caught in the bay.

In the study, the first of its kind to broadly document pollution from “microplastic” in the bay, researchers dragged tight-meshed nets along the surface of the water in nine areas of the bay, from Oakland and Treasure Island to locations near San Jose. They found on average 1 million pieces of tiny plastic per square kilometer – an area of about 250 acres – at the water’s surface or a few inches below it in the South Bay, a concentration nine times higher than levels of similar plastics found in Lake Erie.

Further north, off Oakland and San Francisco, they found 310,000 pieces per square kilometer, still double the highest levels in Chesapeake Bay and triple the levels in Lake Erie, the most polluted of the Great Lakes.

Sutton, a lead author of the study who has a doctorate in environmental chemistry from UC Berkeley, said that researchers also accidentally captured nine small fish while taking their water samples. Inside each fish they found an average of six pieces of plastic.

Other scientific studies have found that tiny pieces of plastic in the world’s oceans and water bodies, sometimes so dense that they outnumber plankton, can absorb contaminants such as pesticides and PCBs, which accumulate in fish when they mistake the plastic for food. The small fish are then eaten by larger fish. And people who eat the affected fish can be exposed to the chemicals when they consume the plastic.

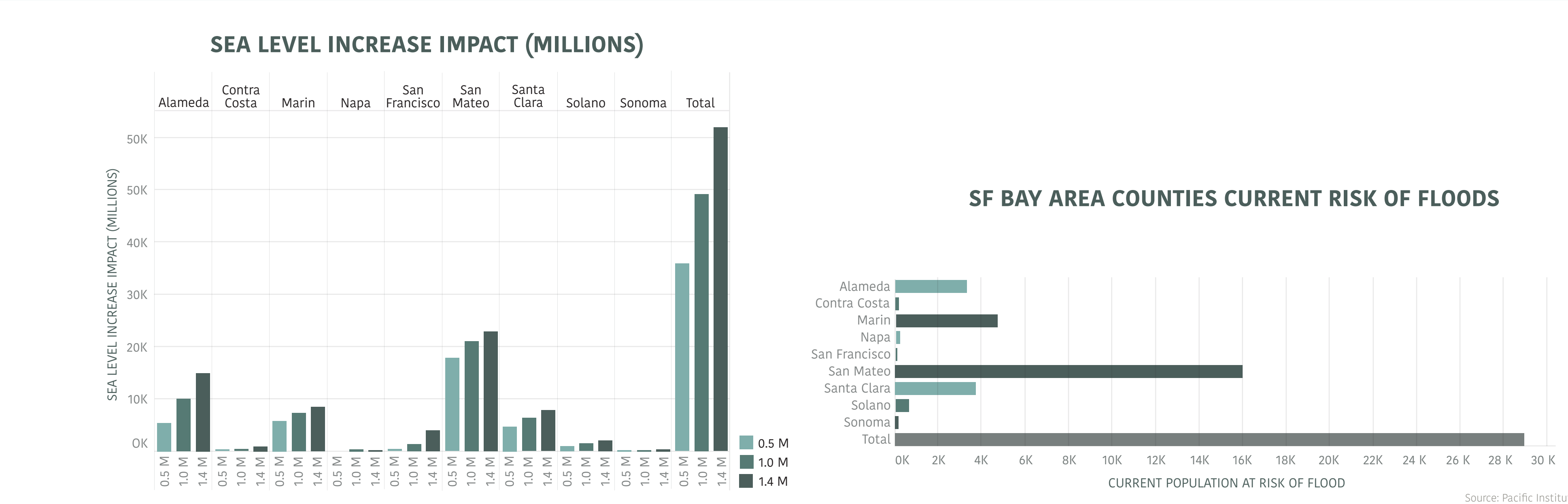
Sutton said Monday that more research is needed to measure the health effects and to pinpoint exactly how much plastic is getting into the bay and from what sources. As part of the study, which began last fall, researchers also sampled the treated wastewater coming from some of the bay’s largest sewage treatment plants, including San Jose, the East Bay Municipal Utility District, the Central Contra Costa Sanitary District and Palo Alto.

They found tiny plastic pieces flowing through all the plants – regardless of how advanced the technology – because the facilities were designed to treat sewage, not filter tiny plastic debris.

Sewage treatment plants in San Jose and in Oakland released the most plastic, in large part because of the dense populations they serve. The study sampled eight of the 42 sewage treatment plants that discharge into the bay. And that is only part of the problem: Plastic also flows in from storm drains, creeks, rivers and illegal dumping.

Retrofitting all the sewage treatment plants with fine membranes to catch the particles, many of

Source: Huffington Post



GLOBAL WARMING

OCEAN ACIDIFICATION

ANOXIA (LACK OF OXYGEN)

Scientific research has shown that the presence of these factors indicate that after already having gone through five “massive extinction events”, life on Earth may yet go through another.

“Our obsession with plastic is choking to death some of the most spectacular animals on the planet. We have to act and we have to act fast.”

Sir David Attenborough, UK broadcaster