

PFAS / PFOA CHEMICALS

- PFAS – Per- and Polyfluoroalkyl Substances
- PFOA – Perfluorooctanoic Acid
- PFAS - Has been used to refer to all manmade synthetic chemical
- PFAS –Known as “forever chemicals” because they break down very slowly

PFAS CHEMICALS

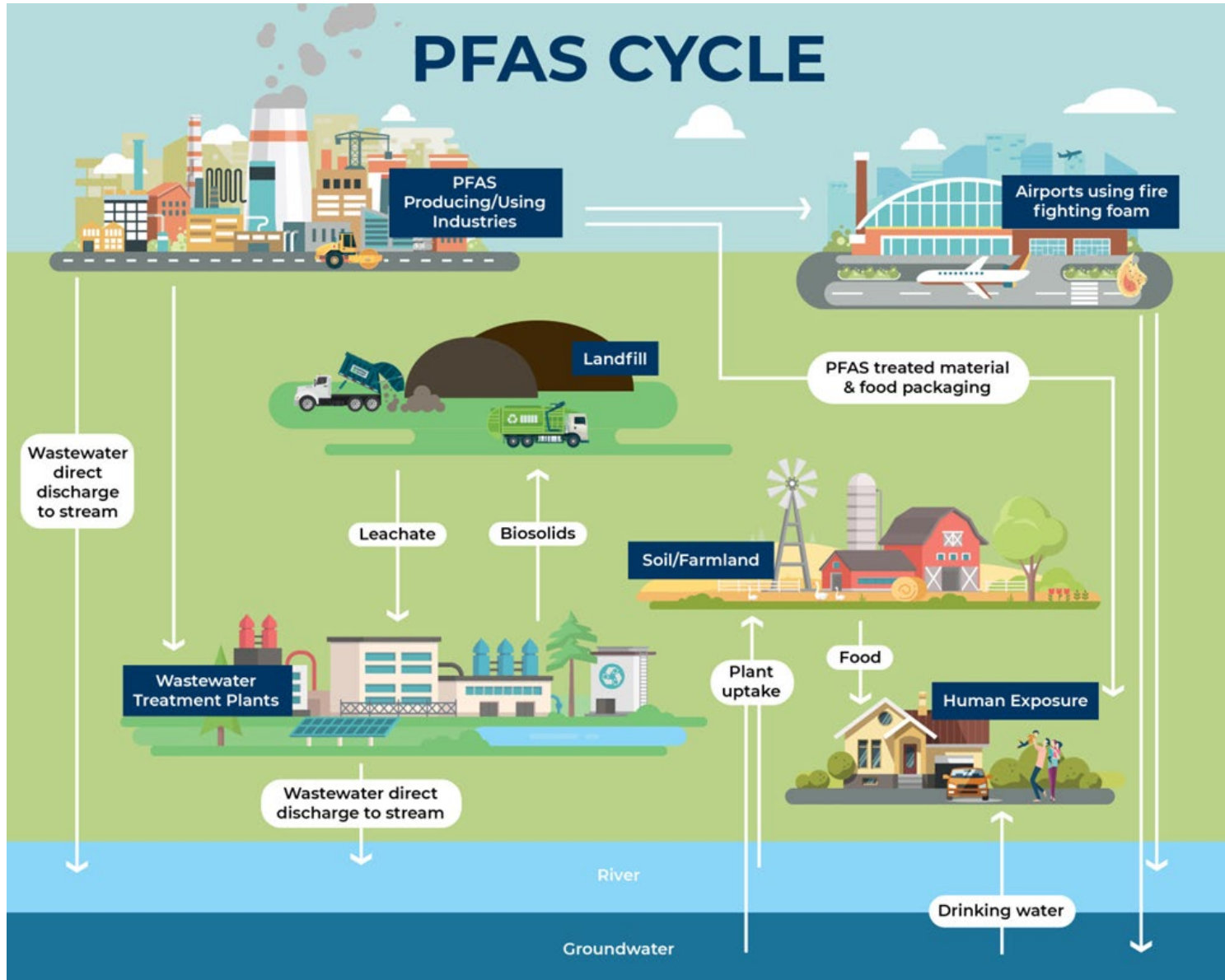
- There are more than 9,000 PFAS Chemicals
- Currently, there are only testing methods for 40

HOW DO WE COME IN CONTACT WITH PFAS CHEMICALS?

- 80% of exposure come from Consumer Products
 - Food packaging
 - Microwave popcorn bags
 - Cosmetics
 - Treated fabrics and carpets
 - Non-stick cookware
 - Dental Floss
- 20% EPA assumes comes from drinking water
 - Based on a lifetime of exposure
 - 2.5 liters of impacted water per day everyday for 70 years



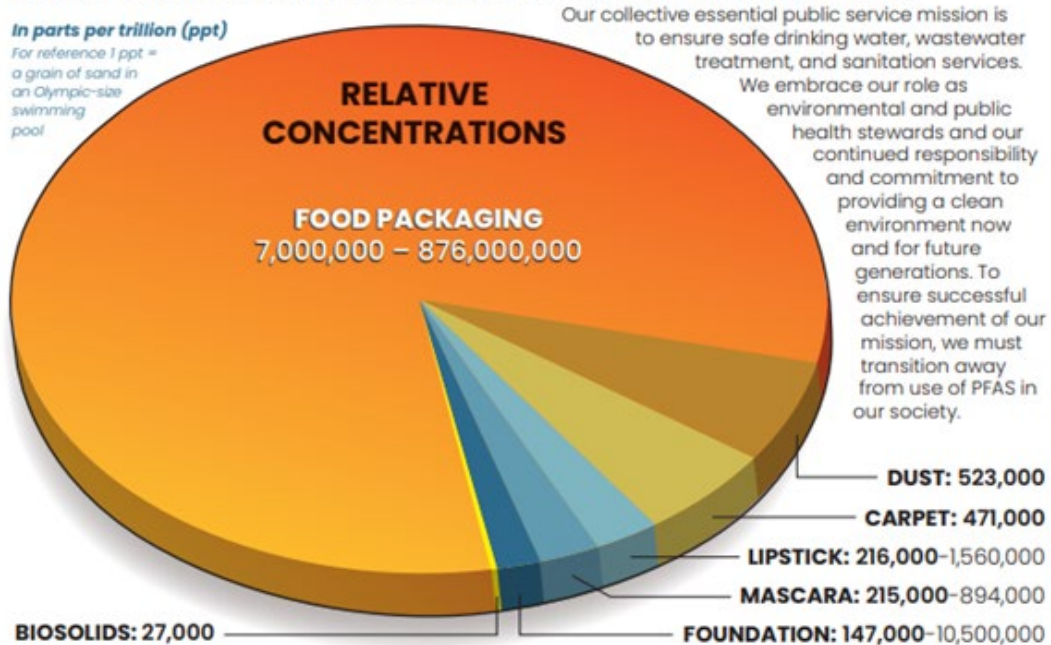
WATER SYSTEMS ARE RECEIVERS NOT CONTRIBUTORS



PFAS BY THE NUMBERS

Per and polyfluoroalkyl substances (PFAS) are a group of manmade fluorinated compounds that have been in commercial use since the 1940's and are abundant in today's society. These chemicals are widely used for their resistance to heat, water, and oil. PFAS are found in every American household, and in products as shown in the pie chart with typical concentrations. Entities providing essential public services such as safe drinking water, wastewater treatment, water recycling, biosolids recycling, and municipal solid waste management are not "users" or "producers" of PFAS but receive them as a function of their prevalent use in society.

In parts per trillion (ppt)
For reference 1 ppt = a grain of sand in an Olympic-size swimming pool



Our collective essential public service mission is to ensure safe drinking water, wastewater treatment, and sanitation services. We embrace our role as environmental and public health stewards and our continued responsibility and commitment to providing a clean environment now and for future generations. To ensure successful achievement of our mission, we must transition away from use of PFAS in our society.

RELATIVE RANGES in parts per trillion



REFERENCES

Food Wrappers - Consumer Reports (May 2022)

Cosmetics - Environmental Science & Technology - June 16, 2021

Carpets & Dust - (2018 data) - Published on May 14, 2020 in Chemosphere.

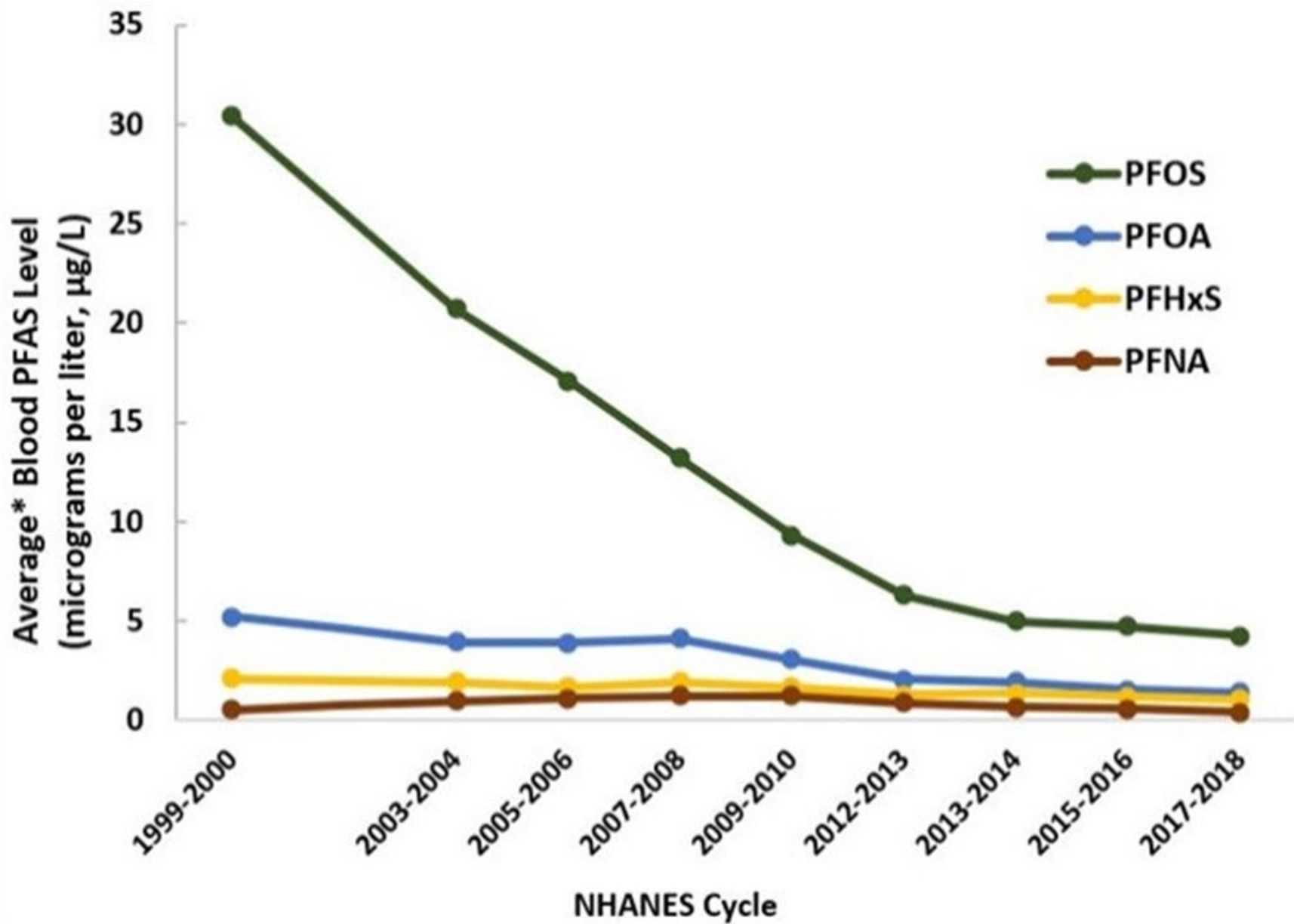
Biosolids - Median of the CA SWRCB Investigative Order (2020)

Let Them Eat Cake!!

That chocolate cake won't last forever, but the chemicals in it might



In chocolate cake with icing, the FDA found PFPeA (perfluoropentanoic acid), another kind of PFAS chemical, at 17,640 ppt or 252 times the EPA's drinking-water standard. This chemical was also found in chocolate milk at 154 ppt.



A large number of studies have examined possible relationships between levels of per- and polyfluoroalkyl substances (PFAS) in blood and harmful health effects in people. However, not all of these studies involved the same groups of people, the same type of exposure, or the same PFAS. These different studies therefore reported a variety of health outcomes. Research involving humans suggests that high levels of certain PFAS may lead to the following:



Increased cholesterol levels



Changes in liver enzymes



Small decreases in infant birth weights



Decreased vaccine response in children



Increased risk of high blood pressure or pre-eclampsia in pregnant women



Increased risk of kidney or testicular cancer

At this time, scientists are still learning about the health effects of exposures to mixtures of different PFAS.