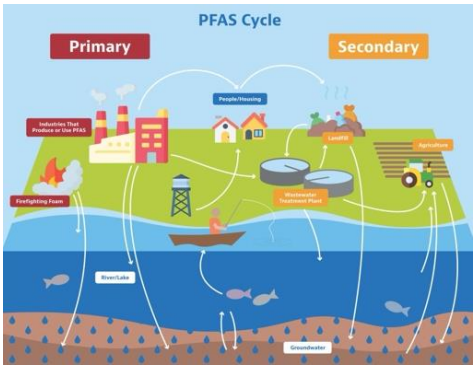
The Persistent Threat of Man-Made Chemicals in Our Food and Bodies

Written by Shuri Matsumoto - HOPE admin volunteer (Qld)

Introduction

Since the advent of synthetic chemicals, their pervasive presence has crept into every aspect of daily life. While these chemicals have facilitated technological and industrial advancements, their long-term impact on human health and the environment remains a growing concern. This article explores chemical bioaccumulation in food, focusing on per- and polyfluoroalkyl substances (PFAS), also called "forever chemicals."

What Are PFAS?



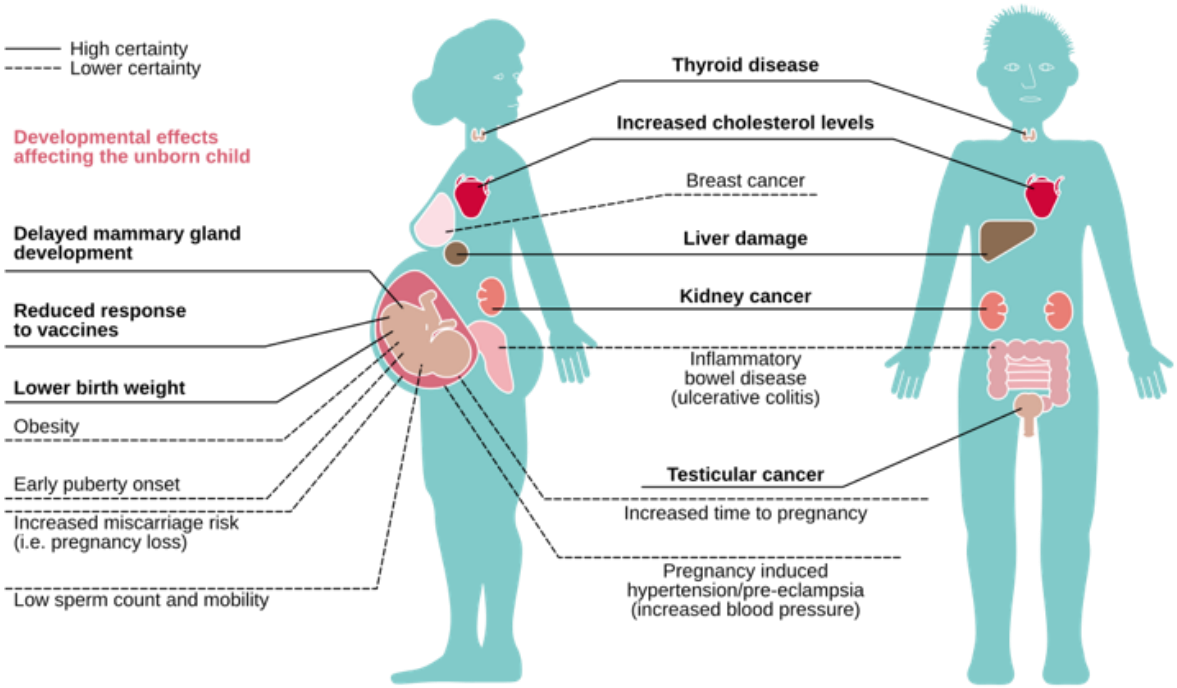
PFAS are a group of over 14,000 synthetic compounds widely used since the 1940s due to their resistance to heat, water, and oil. They are commonly found in everyday items like non-stick cookware, fabrics, firefighting foams, cosmetics, and food packaging. However, their chemical structure makes them virtually indestructible, earning them the nickname "forever chemicals".

Householders' Options to Protect the Environment (HOPE), a proud member of the International Pollutants Elimination Network (IPEN) since 2014, recently published an article on PFAS and their significant health and environmental risks. These risks include their persistence in ecosystems, bioaccumulation in food chains, and link to severe health issues like cancer and endocrine disorders. For additional context, you can explore PFAS more on the HOPE website.

Chemical Bioaccumulation and Health Impacts

PFAS chemicals accumulate in soil, water, and food, eventually entering human bodies. Their robust carbon-fluorine bonds resist degradation, leading to:

- **Bioaccumulation in Ecosystems**: PFAS build up in organisms over time, concentrating at higher levels in the food chain.
- **Health Risks**: Exposure has been linked to immune dysfunction, cancer, developmental issues in unborn children, and hormonal imbalances.



Recent News on PFAS in Australia

Concerns over PFAS contamination in Australia have intensified with alarming new findings. 'Forever chemicals,' specifically PFOS, have been detected in multiple parts of the ecosystem along **New South Wales' Belubula River**, raising significant fears about their entry into the food chain and broader environmental impacts.

- **Fish Contamination**: According to an **ABC News report** (December 18, 2024), PFOS was found in the **livers of carp** caught in the river.
- **Impact on Farming and Local Communities**: Farm manager Harry Grey, who caught one of the fish, voiced concerns about the contamination's ripple effects:
    - "The Belubula River is central to running our cattle," Grey explained.
    - "We pump out of it, water our veggies with it, and swim in it—as do many other locals."

The Role of Advocacy

Organisations like IPEN and Australia's National Toxics Network (NTN) have been instrumental in advocating for policies addressing synthetic chemical pollution. They emphasise:

- Stricter regulations and bans on harmful chemicals.
- Advancements in remediation technologies.
- Public awareness campaigns.

Call to Action

To tackle the PFAS crisis, governments and industries must:

- Enforce stringent regulatory limits.
- Invest in innovative remediation solutions like activated carbon filtration and bioremediation.
- Enhance public transparency and monitoring.

Conclusion

The persistence of PFAS and other synthetic chemicals highlights the urgent need for coordinated global action. HOPE's efforts to raise awareness and advocate for regulatory reform exemplify organisations' critical role in protecting public health and the environment. Together, informed communities and proactive policies can mitigate the long-term impact of these "forever chemicals."
