

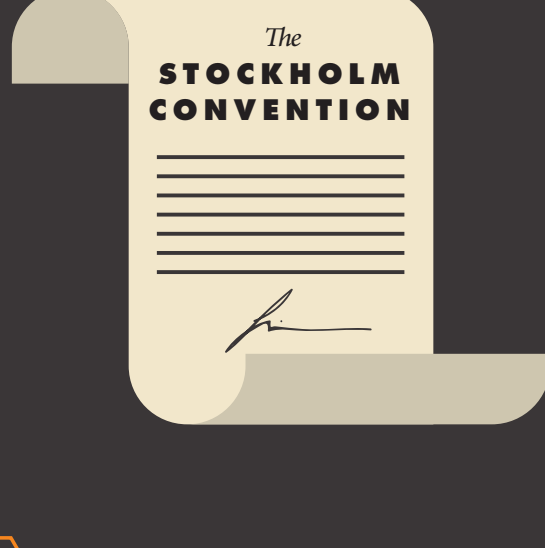
how PERSISTENT ORGANIC POLLUTANTS AFFECT THE ARCTIC

WHAT ARE THEY?

Persistent Organic Pollutants (POPs) are toxic chemicals that adversely effect human health and the environment around the world. POPs are transported by wind, water, and food cycles. Because they are resistant to environmental degradation, they can persist for long periods of time in the environment, accumulate, and pass through the food chain.



OVER 150 COUNTRIES HAVE AGREED TO REDUCE OR ELIMINATE **12 KEY POPs** in the **STOCKHOLM CONVENTION**



WHAT ARE THEIR SOURCES IN THE ARCTIC?

MOST POPs DO NOT ORIGINATE in the ARCTIC BUT ACCUMULATE THERE OVER TIME

POPs were first noticed in the Arctic during the 1950s when pilots noticed a haze that was traced to the lower latitudes. The Arctic is a "sink" for certain pollutants transported into the region from distant sources.



INDUSTRIAL CHEMICALS

Chemicals like PCBs and HCBs have been used as insulating materials, inks, adhesives, flame retardants, paints and paper products.



PESTICIDES

Pesticides like DDT remain a valuable health tool in the tropics, but has largely been replaced in industrial use. Because of its chemical makeup, it will not decompose and has accumulated in the Arctic's sinks and wildlife.



MORE THAN 4 BILLION POUNDS of **PCBs** HAVE BEEN PRODUCED AND USED since **1929**

DIOXINS

Dioxins unintentionally produce POPs through industrial processes and combustion, for example, municipal and medical waste incineration and backyard burning of trash.



MORE THAN 4 BILLION POUNDS of **DDT** HAVE BEEN PRODUCED AND USED since **1940**

DESPITE the STOCKHOLM CONVENTION MANY POPs are STILL BEING PRODUCED in DEVELOPING COUNTRIES

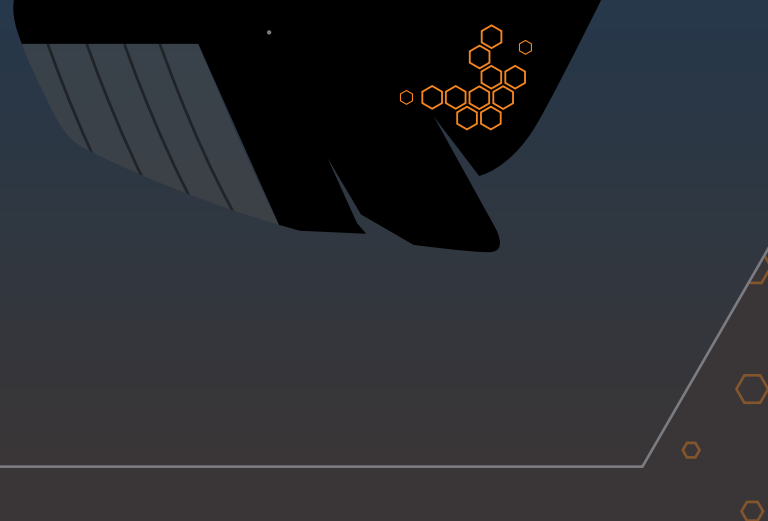
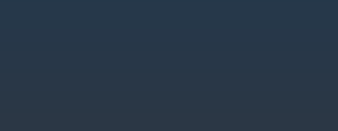
WHERE THEY ARE TODAY

OCEANS AND SOILS

Oceans and soils become primary sources of POPs after they are no longer used. POPs are carried by winds from the south and are deposited into the soil and ocean, where they accumulate.

THE FOOD CHAIN

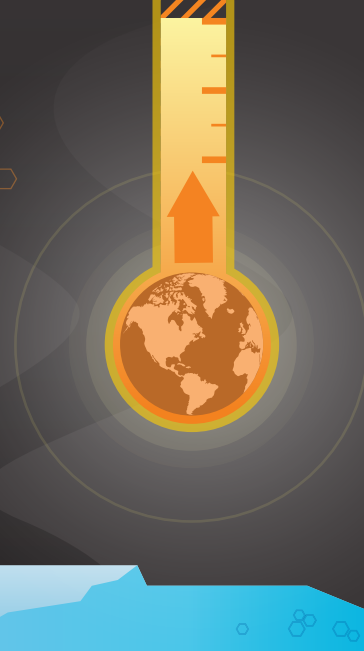
POPs accumulate in the fatty tissues, milk and blood of living organisms, a process known as bioaccumulation. This is particularly true in the Arctic where animals have more fat to adapt to the colder climate.



WHY DOES IT MATTER?

CLIMATE CHANGE IS MAKING THIS OLD PROBLEM NEW AGAIN

Rising temperatures are causing the release of toxic chemicals once trapped in the ice, snow, and soils of the Arctic.

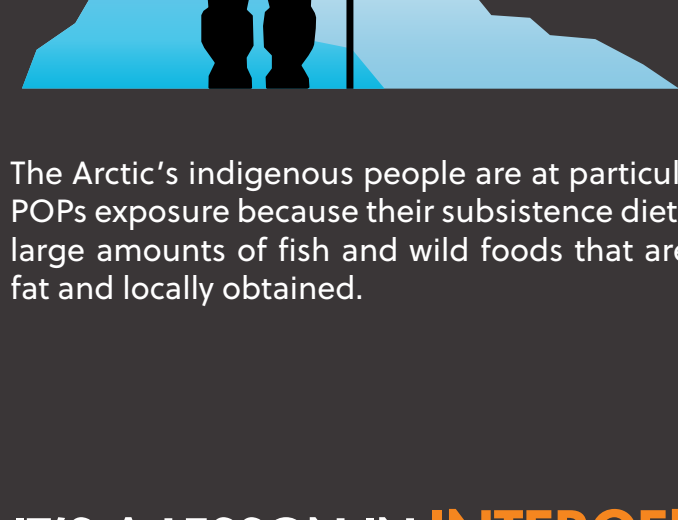


IT HAS HUGE HUMAN HEALTH CONSEQUENCES

In people, reproductive, developmental, behavioral, neurologic, endocrine, and immunologic adverse health effects have been linked to POPs.



PEOPLE ARE MAINLY EXPOSED to POPs THROUGH CONTAMINATED FOODS



IT'S A LESSON IN INTERGENERATIONAL RESPONSIBILITY

These banned pollutants were created decades ago and hold testament to a less environmentally friendly past. These POPs coming in from the cold are affecting the health of today's children and will effect their children.



THE ARCTIC INSTITUTE

Art and Design by Greg Workman