



# Sitka Tribe of Alaska

## Brownfields Program

### Persistent Organic Pollutants

October 3, 2019



WWII Naval Operating Base near Sitka

**Persistent Organic Pollutants (POPs)** are chemicals that do not break down easily. In Sitka, POPs were produced at the pulp mill and at WWII sites, but pollutants can also travel via wind and currents.

#### Pollutant Production

POPs are frequently industrial chemicals or pesticides. Many industrial chemicals are halogenated organic compounds, which have halogen gas elements like chlorine, bromine, fluorine, or iodine bonded to carbon atoms and are very stable in the environment. These compounds are designed to withstand heat, so they do not breakdown when exposed to sunlight or friction. Pesticides and herbicides are designed to kill biological life, thus are inherently not healthy for human or animal consumption. Because of the permanent and destructive nature of POPs, the effects they have on the natural world can be drastic.



Former Alaska Pulp Mill in Sitka

## Environmental Effects

POPs bioaccumulate: they are passed when one organism eats others with contamination. POPs also biomagnify: their contamination increases with an increase in the trophic level. Consequently, pesticides can accumulate in animals and lead to harmful effects, like DDT accumulation in bald eagles, which lead to eggshells breaking and poor hatching rates. Bioaccumulation also disproportionately affects communities that recreationally or subsistence harvest due to their higher consumption rate of potentially contaminated animals. To combat these problems the Stockholm Convention was created.

## The Stockholm Convention

The Stockholm Convention on Persistent Organic Pollutants is a global treaty formed in 2001. The treaty aims to protect human health and the environment from chemicals that remain intact in the environment for long periods and focuses on the restriction and elimination of intentional production of said chemicals. Unfortunately, the United States is one of the few countries that did not ratify the Stockholm Convention.



Stockholm Convention in 2001

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## Pictures:

Sitka Pulp Mill [http://www.sharnoffphotos.com/humans\\_nature/environment\\_north\\_am/env\\_img/pulp\\_mill\\_sitkawtmk.jpg](http://www.sharnoffphotos.com/humans_nature/environment_north_am/env_img/pulp_mill_sitkawtmk.jpg)

Stockholm convention <http://www.environmentandsociety.org/sites/default/files/stockholm72-opening.jpg>

WWII base <http://www.sitkaww2.com/navy/p/2planes.JPG>

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