

The cbc.ca login and signup tools are temporarily unavailable for and will re-open within 24 hours. We're sorry for the inconvenience. If you're already signed in, you can continue commenting.

CBCnews

Manitoba



LIVE

Manitoba

More Streams

Radio One

Listen Live

89.3 FM

radio one 990

- Home
- Opinion
- World
- Canada
- Politics
- Business
- Health
- Entertainment
- Technology & Science
- Video

Canada

Manitoba

http://www.cbc.ca/news/canada/manitoba/polar-bears-hudson-bay-chemical-1.4367638

## New chemical cocktails found in Hudson Bay polar bears

As environmental concerns force one chemical out of the market, industry comes up with something else

The Canadian Press | Posted: Oct 23, 2017 1:34 PM CT | Last Updated: Oct 23, 2017 1:34 PM CT



The fact that some chemicals have been found in a top-of-the-food-web predator like polar bears suggest they're widespread in the environment, researchers say. (Cameron MacIntosh/CBC)

639 shares

Facebook

Twitter

Reddit

Google

Share

Email

### Related Stories

- Watch two 500-kilo polar bears play fight in Hudson's Bay
- Not 'man-eating beasts': Study suggests attacking polar bears young, hungry
- Record number of clashes between polar bears, people blamed on late ice
- Polar bear numbers could drop a third by mid-century, says study
- Scientists gathering in Winnipeg to focus on 'complex' changing Arctic climate
- Nunavut's polar bear problem growing in Hudson Bay communities

New tests have found a wide range of previously undiscovered contaminants in polar bears around Hudson Bay.

The new study complicates our understanding of the complex cocktail of chemicals the bears are exposed to as they try to adapt to changing climate, said Environment Canada researcher Robert Letcher.

"For many of these newer compounds, there isn't a lot of toxicological information," he said.

Biologists have long known that polar bears as well as other arctic animals carry toxic chemicals known as persistent organic pollutants — or POPs — in their bodies. Those chemicals, which include substances such as PCBs, damage immune, digestive and reproductive systems.

■ **Watch two 500-kilo polar bears play fight in Hudson's Bay**

■ **Not 'man-eating beasts': Study suggests attacking polar bears young, hungry**

Many of those pollutants are restricted under the 2001 Stockholm Convention. New chemicals have been added since, including substances used for everything from flame retardants to pesticides.



Further research is being conducted using stored samples of bear tissues to get a definitive idea of what's been happening over time with the various contaminants. (CBC News)

Those new chemicals were among a group of 295 POPs that Letcher and his colleagues tested for. They found a total of 210 of them "with some frequency" in fat and liver samples collected from 41 bears that had been harvested in 2013-14 from the western and southern shores of Hudson Bay.

The fact they've been found in a top-of-the-food-web predator like polar bears suggest they're widespread in the environment, said Letcher.

"If a compound can migrate its way through the food web, all the way up to the polar bear, it must be pretty extensive."

■ **Record number of clashes between polar bears, people blamed on late ice**

■ **Polar bear numbers could drop a third by mid-century, says study**

The levels of contamination vary widely among the chemicals.

Most are found in the range of parts per billion. Some, such as one chemical used as a water repellent for fabrics, are approaching parts per million.

It's hard to know what their impacts are on the bears, said Letcher. Most of what we know about these chemicals come from lab tests.

"It's really hard to extrapolate from a lab rat to a completely different species in the wild. We don't have cause-effect evidence."

■ **Scientists gathering in Winnipeg to focus on 'complex' changing Arctic climate**

■ **Nunavut's polar bear problem growing in Hudson Bay communities**

It's similarly hard to generalize about trends.

Some of the contaminants such as PCBs or DDT were covered under the original Stockholm Convention and have long been in decline. Levels of flame retardant chemicals, added to the Stockholm list in 2009, also seem to be dropping.

Others don't seem to be declining at all, despite being added to the convention's list nearly a decade ago.

Letcher is conducting further research using stored samples of bear tissues to get a definitive idea of what's been happening over time with the various contaminants.

"If there's any stressing factor to life in the Arctic, it is climate change."

- Environment Canada researcher Robert Letcher

But the fact none of the contaminants seem to be increasing is evidence that international pollutant agreements such as the Stockholm Convention do what they're supposed to, Letcher said.

"There's no doubt about that. Generally, the result is that right across the board levels have been decreasing over the years, which is the power of that regulation on a global level."

It's tough to ban a chemical outright, said Letcher.

Europe may ban something that is produced in large quantities in China. As well, as environmental concerns force one chemical out of the market, industry comes up with something similar to do the same job.

And understanding the impact of the chemicals is further complicated by the context of Arctic climate change.

"If there's any stressing factor to life in the Arctic, it is climate change," Letcher said.

"It's a major challenge for us to understand how climate change variables are affecting contaminant exposure."

© The Canadian Press, 2017

THE CANADIAN PRESS



Report Typo or Error | Send Feedback

### Stay Connected with CBC News



### Weather

| Tuesday | Wednesday | Thursday | Friday | Saturday |
|---------|-----------|----------|--------|----------|
|         |           |          |        |          |
| 8°C     | 13°C      | 4°C      | 5°C    | 4°C      |

More Weather |

### Latest Manitoba News Headlines



■ Kelvin High School murder trial begins

■ Uber, taxi industry take fight over ride-sharing bill to committee

■ Job losses in northern Manitoba could reach 1,500 in next 3 years: Briefing note

■ Where is Dauphin's MRI machine? NDP MLA asks government in question period

■ Lost hiker survives night in woods amid snow, rain near Pisew Falls

### Must Watch



Brian Bowman's staff turnover

2:20

When he ran for mayor of Winnipeg, Brian Bowman campaigned on a promise of change at city hall. Three years later, his own office has undergone more upheaval than any other city department.



Learn to get out of the way when parenting, says Karl Subban, P.K.'s dad

4:46

What is it like raising a family of five, with three of your sons playing professional hockey? CBC's Marjorie Dowhos spoke with ultimate hockey dad, Karl Subban.

### Top News Headlines



■ Liberals take Tory seat in Quebec, Conservatives win Alberta byelection

■ New U.S. ambassador to Canada Kelly Craft says she believes 'both sides' of climate science 1258

■ 'Somebody's going to get closure': Missing woman's dad waits for news from B.C. search

■ Man dies of anaphylactic shock at worksite where sandblasting was being done with walnut shells

■ 'Are you nervous?': Dellen Millard questions Laura Babcock's father at murder trial

### Most Viewed

■ Former CTV broadcaster Steve Vogelsang accused of robbing 2 Alberta banks

■ 10-year-old found safe after going missing from school Monday morning

■ Family of woman, 21, killed in Winnipeg shooting embark on 4-day honour walk

■ New chemical cocktails found in Hudson Bay polar bears

■ Brian Bowman, who sought change at city hall, finds plenty of it under his nose with staff turnover

■ Serious assault in Elmwood sends man to hospital

■ Who is David Peachey? Meet the doctor-turned-consultant behind Manitoba's health-care overhaul

■ Dougald Lamont elected Manitoba Liberal leader in tight race

■ Winnipeg police seize cocaine, handgun in weekend raid in Waverley West

### Special Coverage



Wire-bristle BBQ brush incident reports more than double

'What will it take — a death?' Surgeon urges Health Canada ban on wire brushes



'It was such a big secret': Man waives ban on his identity in father's incest trial

Prominent pediatrician to go to trial this fall



U of M gave positive reference check for former prof accused of sexual harassment: Berklee College

Privacy law restricts sharing information in reference checks, says U of M



CBC Manitoba I-Team investigates

CBC digs deeper on the stories of the day

### Explore CBC

CBC Home

TV

Radio

News

Sports

Music

Life

Arts

Kids

Local

Documentaries

Comedy

Books

Parents

Indigenous

Digital Archives

Games

Contests

Site Map

### Stay Connected

Apps

RSS

Podcasts

Newsletters & Alerts

### Services and Information

Corporate Info

Public Appearances

Commercial Services

Reuse & Permission

Terms of Use

Privacy Policy

CBC Shop

Help

Contact Us

Jobs

Doing Business with Us

Renting Facilities