



for a living planet™

Home > News & Facts > Newsroom > News

Newsroom

News

Feature Stories

Notes from the Field

Successes

Crisis Response

Podcasts & Radio

Press Releases

News

Polar bears top the list of 'most contaminated' in the Arctic

10 Aug 2005

Brussels, Belgium/Oslo, Norway – A new study shows that fish, birds, and marine mammals in Greenland and the Faroe Islands are polluted with fluorinated chemicals. The new results add to the list of Arctic locations where these chemicals have now been detected and show that polar bears are the most contaminated animals of those tested.

[The Greenland/Faroe Island study](#), financed by the Danish Environmental Protection Agency, tested species including birds, seals, whales, and polar bears for PFOS (perfluorooctane sulfonate) and other fluorochemicals used in common household products such as stain-retardants, surface-protectors for furniture, carpets, textiles, non-stick cookware, paper coatings, and fire-fighting foams. The full results of the study regarding PFOS contamination have appeared in the July edition of the international journal *Environmental Pollution*.

Unlike many other persistent chemicals, which accumulate in fat, fluorinated chemicals bind to proteins in the blood and can accumulate and damage organs such as the liver. There is also evidence that PFOS has negative effects on the hormone system.

Although it is still unclear how PFOS is reaching the Arctic, it was detected in all tested animals from the Faroe Islands and 13 out of 16 samples from Greenland, with polar bears –at the top of the food chain – showing the highest concentrations. Other studies have confirmed that marine mammals from Arctic Norway, Alaska, and Canada are also contaminated with fluorinated chemicals.

"When animals in the remote Arctic are full of chemicals from consumer products it



Polar bears are the most contaminated animals of those tested in a recent study.
© WWF-Canon / Svein B. Oppegaard

- [Download the Greenland/Faroe Island study](#)
- [News: The Arctic is the chemical sink of the globe](#)
- [WWF's DetoX Campaign](#)

[Send this link to a friend](#)
 [Print Page](#)

means that something is very wrong," said Brettania Walker, Toxics Officer for WWF's Arctic Programme, "but yet, governments are slow in realizing the danger."

Canada is the only country currently banning PFOS and Sweden's proposals for bans on PFOS at the European Union and global levels still need approval.

Through its DeoX campaign, WWF, the global conservation organization, is calling on European legislators to protect the environment and public health by identifying and phasing-out the most hazardous chemicals, including PFOS.

A demand also supported by Dr. Rossana Bossi, one of the scientists leading the study: "Strong EU chemical legislation will add new knowledge on chemicals and their properties, and help reduce the negative effects on the environment from exposure to chemicals."

END NOTES:

- Some key data of the new Greenland/Faroe Islands report: The greatest concentration of PFOS was found in liver of polar bear from east Greenland (mean of two samples: 1285 ng/g wet weight); these levels are about four times higher than the mean level (350 +/- 33 ng/g) reported in Alaskan polar bear liver by Kannan et al. (2001), and lower than the levels found in polar bears from the southern Hudson Bay reported by Martin et al. (2004), (3100 +/- 878 ng/g wet weight); and of the species tested in the Greenland study, the next highest concentration of PFOS was found in hepatic tissue from ringed seals (52-67 ng/g wet weight) from east Greenland.
- Perfluorinated compounds are used as stain and surface protectors, and in the production of textiles, food packaging and non-stick coatings such as Teflon. One fluorinated chemical, called PFOS, was voluntarily phased-out by a major manufacturer in 2001 due to concerns of its hazardous properties. While Canada recently enacted a ban on 3 types of fluorinated chemicals, there is currently no EU or global regulation of either PFOS or another fluorinated chemical of concern, called PFOA.
- The Arctic is uniquely vulnerable to pollution and is the final destination of chemicals from around the world. It is a region that plays an important role for wildlife found nowhere else and for the many people who live there.
- The current EU chemical regulatory system, similar to others around the world, considers chemicals "safe until proven otherwise". Chemicals in production prior to 1981 do not require safety testing. As a result, thousands of chemicals in current-use have never been evaluated for basic safety and some of them remain in the environment even years after they are banned and phased-out of use.
- [REACH](#) (Registration, Evaluation and Authorisation of Chemicals) is the draft EU law that should lead to the identification and phasing out of the most harmful chemicals. Under the law, chemical producers would be obliged to send a registration dossier

containing safety data to a central chemicals agency for all chemicals produced in quantities above one tonne a year. Experts would then evaluate the safety data for higher-volume chemicals and other chemicals of concern. Chemicals of very high concern would be phased out, and replaced by safer alternatives, unless industry can show 'adequate control' of the risk from their use or that their 'socio-economic' value outweighed the risks. WWF does not think that the draft law is tough enough.

- The study, *Preliminary screening of perfluorooctane sulfonate (PFOS) and other fluorochemicals in fish, birds, and marine mammals from Greenland and the Faroe Islands*, relied on tissue samples taken from polar bears, minke whales, pilot whales, ringed seals, black guillemot, fulmars, and shorthorn sculpin between the years 1998-2002. Animals were sampled from different locations in Greenland or the Faroe Islands depending on the species.

For more information:

Brettania Walker, Toxics Officer
WWF International Arctic Programme
Mobile: +47 93411663
E-Mail: bwalker@wwf.no

Noemi Cano, Communications Manager
WWF DetoX Campaign
Tel: +32 2 743 8806
E-Mail: ncano@wwfepo.org

Dr Rossana Bossi
National Environmental Research Institute, Denmark
Tel: +45 46301357
E-Mail: rbo@dmu.dk

Dr Katrin Vorkamp, Project Leader
National Environmental Research Institute, Denmark
Tel: +45 46301859
E-mail: kvo@dmu.dk

Page last updated: August 10, 2005. © All photos/graphics remain the copyright of WWF

A A ∴  Print Page ∴  E-Mail Page ∴  Add to del.icio.us ∴  Digg This ∴  Web feeds