

## **Dramatic decline of male births in indigenous communities tied to industrial pollution**

**By Terri Hansen, Today correspondent**

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*Photo courtesy Ron Plain, Sarnia, Ontario, Canada's "Chemical Valley."*

A strange reality exists in at least one indigenous community – babies that should be born boys are instead, born girls.

Research in 2007 showing skewed birth ratios in the villages of northern Greenland exposed earlier studies that found indigenous mothers living in the northern most reaches of the Arctic Circle were giving birth to daughters.



The studies linked the skewed sex ratios with human exposures to PCBs and other persistent organic chemicals.

Following a report that some Arctic indigenous communities are among the most exposed populations to persistent toxic substances, the Indigenous Peoples Organization initiated the [Arctic Monitoring and Assessment Program Programme](#) in 2004.

Their assessment concluded, "Any threat to continued consumption of their foods, including chemical contamination, is not only a potential threat to the health of the individual, but also to the social structures and entire cultural identity of these indigenous peoples."

Toxic pollutants travel from industrialized countries and accumulate in the marine food chain of the Arctic region, and in the traditional diet of indigenous peoples. Blood levels of such pollutants as PCBs and mercury were several times higher in residents of Arctic Canada and Greenland than measured in residents of industrialized areas of North America.

Perhaps an even darker legacy of the industrial contamination are the pollutants targeting pre-born boys in Canada on the Aamjiwnaang First Nation, an Anishinaabek community, turning them into girls.

Normally there are 106 boy births for every 100 girls. The higher ratio is nature's way of compensating for males more likely to perish hunting and in conflicts. For years, scientists have reported declines in male births worldwide.

Most startling is the sharp drop of boys among the Aamjiwnaang Anishinaabek: "A greater rate of change than has been reported previously anywhere," said a 2005 study published in the journal *Environmental Health Perspectives*.

It's the kind of attention this tiny community of 850 never wanted. In the beginning, they could not conceive what was happening in their community.

Their pain and questions began in 2002, when biologist Michael Gilbertson found elevated levels of PCBs, pesticides and heavy metals on the reserve. Gilbertson asked if they had more girls than boy children.

Tribal members were first baffled, and then aghast as they realized that they had enough girls for three baseball teams, but not enough boys for even one team.

Anger soon turned to action.

Ron Plain grew up in Aamjiwnaang; he is a calm steady man, not the type you'd peg as an activist.

An accidental catalyst release from nearby Imperial Oil in 2002 changed all that. Imperial workers sampled and cleaned Aamjiwnaang homes, even their cars, inside and out. Don't worry, they told Plain, stirring up dust as they cleaned. "The dust won't hurt you."

Plain did worry. Unconvinced, he asked, "If it's harmful to our houses and cars, what's it doing to our lungs and our bodies?"

Imperial Oil offered \$300 to each homeowner if they agreed to waive any damages and legal counsel, and many accepted their offer. Imperial paid \$125,000 in fines. Plain and other tribal members meanwhile organized their own environmental investigative committee.

The Aamjiwnaang's investigation team uncovered studies done of their lands years before. A 1986 scientific report by the University of Windsor showed that mercury, a neurotoxin, was present on their reserve at a 100 times greater amount than the Severe Effect Level set by the Canadian government.

When next Sun Oil – now Suncor – announced they planned to build the largest ethanol plant in Canada right across the street from the tribal community, Plain and other members of the tribal environment committee, closed their roads. For six weeks, Sun Oil trucks could not get through.

"We won," Plain said. "They agreed not to put the plant in. We shut down a multimillion dollar industry." But their battles have only begun, he said.

The Anishinaabek have occupied their lands at the southernmost tip of Lake Huron for centuries, long before the discovery of oil and the boom oil rush. Today, their land, dubbed "Chemical Valley," at the border between Ontario and Michigan just south of Sarnia, Ontario, lies in the shadow of Canada's largest concentration of petrochemical and manufacturing facilities. Their land adjoins the St. Clair River Area of Concern, so designated because of its long history of air and water pollution.

Two reports in 2007 are a dramatic indictment of the industry's impact on the Aamjiwnaang community. "[Exposing Canada's Chemical Valley](#)," identifies 62 facilities in Canada and the U.S. that have made the area Ontario's worst air pollution hotspot.

"What is particularly striking about the air pollution in the Sarnia area is the immense quantity of toxic chemicals emitted," Ecojustice Canada senior scientist and report author Dr. Elaine McDonald said in an accompanying statement.

"There is growing evidence that the health of the Aamjiwnaang First Nation members and the local environment has been severely compromised."

Findings from researchers at Ontario's IntrAmericas Centre for Environment and Health confirm that in some Canadian communities, more girls than boys are born. The cause of the phenomenon is airborne pollutants called dioxins that can alter normal sex ratios, even when the source of the pollution is kilometers away.

Industry representatives did not respond to the [Ecojustice Canada](#) report. After a period of silence industry-funded Sarnia-Lambton Environmental Association's Dean Edwardson told

reporters, "We want an open and transparent process. ... something that is scientifically valid, peer-reviewed and is meaningful." He said their industry would pay for such a study.

Plain said that's a smokescreen, since there already is a scientifically valid, peer-reviewed study. "The 2005 study was reviewed by top scientists and was published in the highly regarded scientific journal Environmental Health Perspectives."

Edwardson countered, saying data released from the County of Lambton Community Health Services Department shows birth ratios of the Sarnia-Lambton area are similar to those for the rest of Ontario. To that, Plain said, "For years, we have been asking the County of Lambton for a research program establishing the birth ratios by affected regions as opposed to the blanket wide study where those farthest from the plume are blended into the ratio." So far, the county has refused Aamjiwnaang's request.

The findings by Ecojustice Canada reveal pollutants are having significant impacts on the Anishinaabek cultural lifeways, affecting hunting, fishing, medicine gathering and ceremonial activities.

The Aamjiwnaang environmental team said chemical releases and spills remain the community's primary concern. But ask tribal members their biggest concern? They'll tell you it's fear.