

## First Nation concerned about startling birth ratio

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AAMJIWNAANG FIRST NATION, Ont. — The people of the Aamjiwnaang First Nation are painfully aware they make up a startling statistic that has raised eyebrows around the world, but the bigger concern for residents are the **chemicals** they fear are overwhelming their community and killing off their legacy.

The **birthrate ratio of boys to girls normally observed in communities falls close to an even split. In Aamjiwnaang, records show two girls are being born for every boy** - a scientific anomaly that has stunned researchers and that residents admit is clearly not normal.

"Our sense of normal is not normal," said Ada Lockridge, chairwoman of the Aamjiwnaang environment committee, and a mother of two girls.

Visitors to this reserve just outside the southwestern Ontario border community of **Sarnia, Ont.**, are struck by the sight of **dozens of massive industrial facilities spewing out smoke and their close proximity to the First Nations community** of about 850.

Residents live in an area known as **chemical valley - Canada's largest cluster of chemical, allied manufacturing and research and development facilities** - and co-exist with smoke stacks and **nauseating smells that carry with the wind.**

The girl-boy ratio anomaly has been the **subject of international study**, most recently in an **article published in Environmental Health Perspectives this month** based on the work of **researchers from the U.S. and Japan.**

"To our knowledge, this is a more **significantly reduced sex ratio and greater rate of change** than has been reported previously anywhere," the study reads.

While **many residents are reluctant to talk openly about the lack of boys being born** and the worldwide attention that's been focused on them it's something that just about everyone thinks about, said 67-year-old Wilson Plain, a father of four and grandfather of five.

Men are worried they will never have sons to carry on their family name and worse, that the **lives of the entire community may be at risk.**

"There's **not a lot of conversation about it, most people are uncomfortable about talking** about those results," he said.

"We got blue skies and there doesn't seem to be anything wrong with where I'm sitting. But when I zero in on (**the skewed birthrate and the nearby chemical plants**) I ask myself: **How long is my life going to last? Will I be hit with cancer?**"

The phenomenon of an **increasingly female reserve** snuck up on everyone a few years ago. They were surprised to learn there **were enough girls in the community to field three baseball teams while there would be only one boys' squad.**

Lockridge thought of her own family - her two sisters **have nine kids between them, of which there's only one boy** - and started to get worried about what was happening in the community and the **possible impacts of the surrounding industrial plants.**

"Sometimes I wonder why we're still alive," she said.

"We always said, **'Ew, the air stinks,'** but we never thought about what it could be doing to our health. We just thought somebody was watching out for us."

Local environmental consultant Ron Plain said **all levels of government have done little to police the industry.**

"We know absolutely that the **technology is in place right now for an almost zero emission** ... but industry gets away with using the excuse **that it's not economically viable,**" Plain said.

**Environmental Commissioner of Ontario Gord Miller** helped facilitate a meeting with local residents and various municipal, provincial and federal government officials and said **it's clear the people of Aamjiwnaang have reason for concern.**

"People are living immediately adjacent to these industrial facilities. Literally, it's on the other side of the street," Miller said, adding that in other communities there would likely be a 300-metre zone between residential and industrial areas.

He said one of the problems in getting help for the community has been a jurisdictional battle between the provincial and federal governments.

When asked recently about his government's commitment to helping the community, Ontario Premier Dalton McGuinty said, "I don't know a lot about that," and referred questions to the Ministry of Health.

Health Minister George Smitherman said the ministry and local public health officials are working together to develop strategies for the community.

Lockridge said the governments have known about their problems for years and have chose to do almost nothing.

Meanwhile, Ron Plain says the people of Aamjiwnaang wonder about their future with every breath they take - and he doubts their story will resonate with others for long.

"We'll be a blip on the news and the next day they'll talk about something else."

\*\*\* UPDATE 2013 \*\*\*

### **First Nations exposed to pollutants in 'chemical valley'**

#### **Study suggests Aamjiwnaang First Nation residents have higher-than-average pollutants exposure**

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A new study is drawing attention to the health problems being faced by a First Nations community living near one of Canada's most industrialized areas.

Members of the Aamjiwnaang First Nation living on a reserve near Sarnia, Ont., have long suspected harmful chemicals were behind an unusually low male birth rate and slew of other reported health issues.

Now, tests performed by a McGill University professor suggest mothers and children are being exposed to higher-than-average levels of harmful hormone-blocking pollutants.

While the study doesn't prove that the pollutants are to blame for earlier research that found baby girls outnumbered boys by a two-to-one ratio in the community, it does suggest a possible link.

The reserve at the centre of the study is located near a patch of southern Ontario that some environmental activists call "chemical valley."

There are 60 industrial facilities found within a 25 kilometre radius of Aamjiwnaang lands.

#### *More research needed*

"It's the first study to really show that mothers and children in the area are exposed to a number of pollutants," said Niladri Basu, a McGill professor and the study's lead author.

More detailed research is needed to establish a connection between pollutants, health risks and the surrounding environment, Basu said.

Residents of Aamjiwnaang have been calling for such a study for years, though a lack of funding continues to impede more detailed research.

Ada Lockridge, who helped found Aamjiwnaang's environmental committee, said pollution is a fact of life for the reserve's roughly 800 residents.

Like others in the community, Lockridge keeps a special plastic bucket — as part of a group known as the "bucket brigade" — to collect environmental samples that can be tested for toxins whenever the air seems especially poor. The results are sent to a U.S.-based monitoring organization.

"It's a beautiful place, but there is all kinds of industry close by," she said.

According to Lockridge, the evidence continues to mount in favour of stricter environmental controls in the area.

"Everything we do gets us a little further, but it's moving very slowly," she said. "Every study we've ever done, people say, 'this is cause for concern,' but more studies need to be done."

#### *Cluster of chemical companies*

Approximately 40 per cent of Canada's chemical industry is clustered in the area, according to a 2007 report by the Canadian environmental group Ecojustice.

Located at the southernmost tip of Lake Huron on the border between Ontario and Michigan, activists say the area has become one of Canada's pollution hot spots — lined with chemical plants, manufacturing plants, and refineries.

A 2006 community survey by Aamjiwnaang's environment committee cited a number of health issues, including miscarriages, chronic headaches and asthma. Forty per cent of band members surveyed required an inhaler.

Elaine MacDonald, a scientist who co-authored the 2007 Ecojustice report, is hopeful Basu's study will encourage further research.

As it stands, it's difficult to draw a direct correlation between pollutants and health issues such as the low male birth rate.

"This is a start, and it's a great start, but to me there's so much that needs to be done, and there's no money," she said.

MacDonald said it's been difficult to get government funding at both the federal and provincial level. A more comprehensive study that includes the surrounding area, Lambton County, has stalled due to lack of funding.

"The major exposures in this community are via air, so I would like to see a study focusing on air pollutants," MacDonald said.

For the recent McGill study, 43 mother-child pairs from the community were tested for environmental pollutants. Blood, urine and hair samples were taken from those who participated.

Exposures were higher-than-average for chemicals such as cadmium, possibly mercury, and polychlorinated biphenyls or PCBs.

Potential sources of the chemicals are industry, the general environment, and the home. It's not conclusive which is to blame in this case.

PCBs are used in industrial applications such as coolants in transformers and motors and have been largely banned, although they can remain in the environment for years.

Previous studies of other populations have linked exposure to PCBs with low male birth rates.

Aamjiwnaang's low male birth rate was documented in research published in the U.S. journal *Environmental Health Perspectives*. *Previous study noted in first article*

Between 1999 and 2003, the sex ratio of girls to boys was roughly 33 per cent for boys and 67 per cent for girls.

## **Assignment: First Nations approach to dealing with this problem**

You have been learning a way of knowing rooted in the Western European traditions. You have a package of information that explains First Nations ways of knowing and compares it to Western ways of knowing. Your task is to develop a scientific study that respects First Nations ways of knowing to investigate the birth ratio problem detailed above.

Consider the word of David Gehue and the Cayuga speech to a baby from *Birth Through First Nations Midwifery Care*.

Heal you, the self  
you help heal the family,  
The family helps to heal the community,  
The community helps to heal the nation,  
The nations help to heal the world.

All the prophecies from other nations now coincide and complement each other.

It is time for us all to stop blaming one another, heal from our wounds and move forward, for the survival of the world, as we know it, lies in our hands. We must seek out and absorb the wisdom of our elders and use it for the betterment of others. The Great Spirit left a clear and legible path in eastern North America with petroglyphs and natural monuments. This knowledge is kept under guard by our elders and only entrusted to those native people who abide by the natural laws of the Great Spirit; respect, honesty, sharing and caring. Without each one of these, the others do not exist.

It is now time for Moms, Dads, Grandmothers, Grandfathers and children to get involved in the healing of our world. Make it your business too.

*There's a Cayuga speech to a baby that goes, "I give thanks, for peacefully you are born. I pray hopefully that peacefully your life will be ongoing, because it is that I think of you clearly, knowing you will always be loved." When you hear that speech--it came through a family through many generations--you begin to get a sense of how babies were born before we had hospitals. And the word peace is a very potent word. Especially in relationship to a birth, it already gives me a feeling of how that birth went. (Katsi Cook, 2000)*

I suggest that in your groups, have each person contribute to one of the dimensions illustrated in the diagram First Nations ways of knowing (Emotional, Spritual, Values, Physical, Intellectual, Storytelling, Experience). Develop your study in the manner you've learned

Problem  
Hypothesis  
Procedure  
Type Data you will collect

You won't be able to do the analysis and conclusion.