



*MEDIA RELEASE*

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**FOR IMMEDIATE RELEASE**

## **DETECTION OF *BLASTOMYCES* DNA IN CONSTANCE LAKE FIRST NATION HOMELANDS ANNOUNCED AS A SIGNIFICANT BREAKTHROUGH**

**CONSTANCE LAKE, ON** - A significant scientific breakthrough has been made as Constance Lake First Nation (CLFN) continues to grapple with serious impacts from a blastomycosis outbreak in the absence of thorough environmental research and financial resources to navigate its complexity. Community driven efforts have led to the laboratory-confirmed detection of *Blastomyces* species in CLFN's homelands. This is only the second time *Blastomyces* has been successfully isolated from the environment in Ontario, the first time back in the 1980s. The breakthrough is further monumental in that it is the first sample in Ontario confirmed using a novel DNA PCR test.

*Blastomyces* is notoriously hard to detect in the environment. How and where it lives in the environment is still misunderstood. It seems to be rare and short-lived. Its preferred habitat is not well defined but it has been found in soil, wood, organic matter, on shorelines, in forests, and in yards. Like all fungi, it produces microscopic spores carried by wind to reproduce. There are millions of spores in the air everyday, and we inhale them without any ill effects, however, some people who inhale *Blastomyces* spores get sick with an infection called blastomycosis. Humans and other mammals are considered dead-end hosts for *Blastomyces*, meaning it is not being able to complete its life cycle there, so infection is accidental.

A devastating blastomycosis outbreak hit CLFN in the fall of 2021, with at least 50+ people infected and tragically, 5 deaths. Following the outbreak's emergency response, CLFN partnered with Four Rivers, Matawa's Environmental Services Group and Laurentian University to build a dedicated team to search for answers. A focused literature review was conducted in 2023 by Laurentian University's Up North On Climate team to support the community-led efforts to search for the fungus. Ultimately, the review uncovered an effective sampling and analysis protocol from the University of Minnesota which allowed for the first ever detection of *Blastomyces* DNA in an Ontario environmental sample. This breakthrough suggests that future sampling efforts will contribute to a better understanding of its life history and habitat, with the potential to bring desperately needed answers to the region.

Sampling locations and methodology were based on local community knowledge, information acquired through the literature review, and persistent analytical experimentation by Genetic Health of Thunder Bay.

Considerations that led to this unprecedented discovery included environmental conditions, weather patterns, sample storage and transport procedure, and the method of DNA purification, extraction and sequencing. The importance of community-led research is paramount. First Nations can and should lead cutting edge environmental research. This initial step of positive *Blastomyces* sample identification has validated community concerns and reminds community members that there is no giving up when it comes to the wellbeing of community members.

“We were told it was like finding a needle in a haystack. We couldn’t accept that. We persisted. We will continue to work to find the resources to ensure *Blastomyces* research is a priority and that our people have the supports they need. CLFN requires adequate funding for blastomycosis research. Lives depend on it”.

–**Chief Rick Allen, Constance Lake First Nation**

“Finding *Blastomyces* does not change that it is or has been there – we already knew it was (or had been) there because of the outbreak. What this changes is our ability to advance our understanding of it. Being able to find *Blastomyces* in the environment allows us to see the environmental conditions it lives in. In seeing where and how it lives, hopefully we can begin to understand it better and this will allow us to understand how people can adapt to its presence. This understanding is all the more important with an unpredictably changing climate and possible increases in occurrence. This is an absolutely enormous find”.

– **Sarah Cockerton, Managing Director of Four Rivers, Matawa First Nations Management’s Environmental Services Group.**

It is important to remember that while environmental detection means that *Blastomyces* was (and may still be) present, it is naturally found in the environment, impossible to eliminate, and human blastomycosis infection is unintentional. Information for community members on blastomycosis (the fungal infection) is available through CLFN or Four Rivers Group. The authors would like to acknowledge the financial contribution of Indigenous Services Canada’s Climate Change and Health Adaptation Program in supporting this research.