

CWSF 2014 - Windsor, Ontario



Alex Millar, Marika Moskalyk

Green Gold: Phytoremediation of the Long Lake Gold Mine

Challenge: Environment

Category: Senior

Region: Sudbury

City: Sudbury, ON, Lively, ON

School: Marymount Academy

Abstract: We explored the potential for *Pteris vittata* (Chinese Brake Fern) to hyperaccumulate arsenic from tailings soil of the abandoned Long Lake Gold Mine. The Ministry of Northern Development and Mines is starting a cleanup of the site due to unacceptable arsenic levels. Our experiment used *P. vittata* as an additional way of cleaning up the arsenic. Phytoremediation is a developing area of environmental science.

Biographies

Alex - I am a Grade 11 student at Marymount Academy in Sudbury, ON. I moved there from Cornwall, England 4 years ago. As secretary of my student council, cast member of the school production, senior captain at my dance studio, and CWSF participant, it is safe to say that I like to stay busy. I am also very passionate towards my studies at school, including all science subjects. Both of my parents are advocates of science and innovation, I guess you could say that it's in my blood. As global citizens, it is our responsibility to care for our environment and its inhabitants. This strong belief is what drove Marika and I to act upon the issue we face i...

Marika - I am a Grade 10 student from Marymount Academy in Sudbury, ON, home of the Big Nickel. Sudbury is a hotbed of science and innovation, and I've always been immersed in science at our two science centres, Science North and Dynamic Earth. In 2011, we moved to one of Sudbury's 330 lakes, and I discovered that there was an issue at the end of our lake, where an abandoned gold mine was leaching arsenic! The goal of our project was to identify and test an alternate solution to a physical remediation to this beautiful wilderness site. It worked! We spent 6 months testing a fern that takes up significant amounts of arsenic. Our goal now is to conv...

Awards

Value

Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	\$300
Dalhousie University Faculty of Science Entrance Scholarship Senior Silver Medallist - \$2500 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$2 500
UBC Science (Vancouver) Entrance Award Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$2 000
University of Ottawa Entrance Scholarship Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: University of Ottawa	\$2 000
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
Total	\$8 800

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