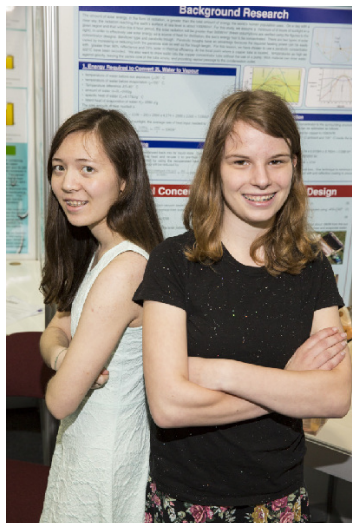


## CWSF 2015 - Fredericton, New Brunswick



### Autumn Wild, Jennifer McTaggart

#### Concentrated Solar Water Purifier with Capillary Feeder and Heat Recuperator

**Challenge:** Resources

**Category:** Senior

**Region:** Ottawa

**City:** Ottawa, ON

**School:** Nepean H.S., Lisgar C.I.

**Abstract:** Approximately 800 million people lack access to clean drinking water. The various solar purification devices available require large land use, high costs and an active power system. We designed a concentrated solar system to boil and evaporate water. The vapour passes through a water tank to provide pre-heating before it condenses into water. We tested different wicks to passively feed water into the boiler.

#### Biographies

**Autumn -** Hola. My name is Autumn Wild and I'm in 11th grade at Nepean High school. My close friend Jennifer and I have been doing science fair projects together for the past few years and all have been focused on environmental issues. We came up with our latest idea of creating a solar water filter when we went camping last summer and were using a commercially available water filter. Unfortunately, the flow rate was extremely slow (why?). After that trip we definitely had a new found appreciation for the clean water that we have at home. We ended up thinking that we could make a better water filter. After some trial and error we created an environment...

**Jennifer -** As a student in Grade 11, I spend many hours of my day doing homework, as well as various sports and extracurriculars. Science plays an enormous role in my life, because I have always been intrigued by different aspects of biology, chemistry and physics. Last year was my first time at CWSF, and it was an amazing experience all together. This year, my partner and I built a solar water concentrator using a capillary feeder and heat recuperator. For me, the inspiration for this project came from reading a newspaper article that documented how many children die every year from contaminated water. There are so many people who lack clean water enti...