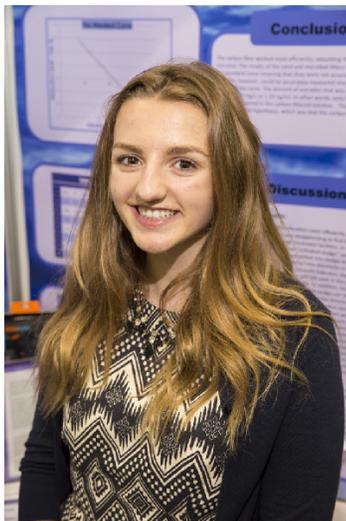


# CWSF 2015 - Fredericton, New Brunswick



## Margaret Williams

### Filtering Estrogenic Substances from Liquid Waste at the Household Level

**Challenge:** Environment

**Category:** Intermediate

**Region:** Bay Area

**City:** Ancaster, ON

**School:** Ancaster H.S.

**Abstract:** Since even small concentrations of estrogen in natural waters pose a significant threat to aquatic ecosystems, the goals of this experiment were to determine what type of filter could best remove estrogenic pollutants from liquid waste and subsequently to produce an efficient and inexpensive carbon filter that could attach to a household toilet for removing these contaminants.

#### Biography

My name is Maggie Williams and I'm a grade 10 student at Ancaster High School in Ontario. My project for CWSF is entitled "Removing Estrogenic Pollutants from Liquid Waste at the Household Level". I became interested in the impact of estrogenic pollutants on aquatic life when I heard an episode of "Quirks & Quarks" on CBC radio: Dr. Karen Kidd (University of New Brunswick) talked about the effect of estrogen on the fathead minnow population she studied. She found that after exposure, the minnow population became virtually extinct and this drastically changed the biodiversity of the entire ecosystem. I am very concerned about our impact on the earth's environment so I tested various filters and, finding that carbon was the most effective at removing estrogenic pollutants, I created a carbon filter that can be inserted into a household toilet. I intend to embark on a campaign to have carbon filtration added to sewage treatment facilities and I intend to study the leaching effects that their disposal in landfill has on our water table. When I'm not studying science, I am busy with school and athletic activities such as rowing and field hockey. I'm also very involved in musical theater.

#### Awards

#### Value

Excellence Award - Intermediate - Bronze Medal Sponsor: Youth Science Canada	
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
Total	\$1 000