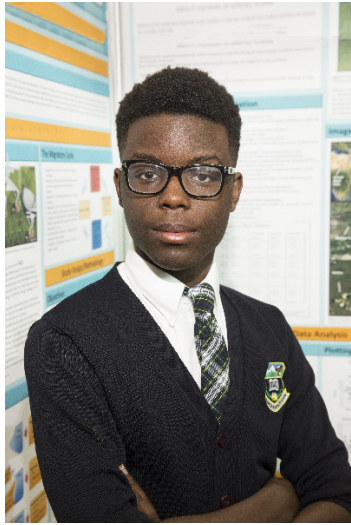


# CWSF 2019 - Fredericton, New Brunswick



## Raphael Kelly

### Utilizing GIS and Data Analysis to Assess Human Impact on Migratory Bird Species

**Challenge:** Environment

**Category:** Intermediate

**Region:** Calgary Youth

**City:** Calgary, AB

**School:** Fairview Junior High School

**Abstract:** A mathematical way to categorize a location's land use and assign a human impact value to it was developed. Using this, the migratory locations of 30 individuals from 6 bird species were analyzed for a total of 420 data points. Through data analysis, this data was used to identify the level of human impact on the habitats of these migratory species and identify conservation points.

#### Biography

My name is Raphael and I am a 14-year-old grade 9 student from Fairview school. I am a math lover who has a love for philosophy and learning. I am currently taking the mathematics 10C course at my school. I am excited to start taking pre-IB courses next year so as to deepen my knowledge in all subject areas. Aside from academics, I am also a basketball player and enjoy football and track and field. In my free time, I like to solve math problems, read books, and make music. In the short term, I hope to learn more about data science, theoretical ecology, discrete and applied mathematics, and music theory. For the long term, I see my career path as being that of an entrepreneur however, I also want to deepen my understanding of all areas of knowledge, especially math, and be involved in academia and research. Although I have a wide variety of interests, they are all connected through the theory of knowledge, the pursuit of excellence, the value of creativity, and a belief in the importance of authentic humanity. This is the mentality I have with all my endeavours.

#### Awards

#### Value

Excellence Award - Intermediate - Silver Medal Sponsor: Youth Science Canada	
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
Total	\$2 000