



Department of Geology Seminar Series Presents

Amy Tizzard

Regional Geologist
Geological Survey Division
Department of Energy and Mines

Evolution of the Oxford Sinkhole

WEDNESDAY, MARCH 27 - 11:30am
Science 411

Everyone is welcome to attend!



GEOLOGY
FACULTY OF SCIENCE

**Amy Tizzard, P.Geo., Regional Geologist (Eastern, Central and Western Regions),
Geological Survey Division, Geoscience and Mines Branch, Department of Energy and
Mines**

Title: *“Evolution of the Oxford Sinkhole”*

Abstract: A small opening in the ground was first observed by groundskeeping staff at the Lion’s Parkland in Oxford, Nova Scotia on July 28, 2018. Over the following weeks the sinkhole slowly grew in both depth and diameter until a sudden collapse on August 20 gave rise to a period of rapid development in which the sinkhole grew quickly from a few meters in size to upwards of 40 meters in diameter and an unknown depth. Observations and measurements of propagation cracks encompassing the sinkhole demonstrate a progression to the northeast toward playground infrastructure and surrounding Salt Lake. Aerial surveillance of surrounding lakes and watercourses during the most active period of sinkhole development showed no unexpected turbidity, indicating a lack of mixing of sinkhole water with that in surrounding waterbodies. LiDAR imagery of the area shows numerous dry and ponded sinkhole activity in the vicinity of Salt Lake and area to the southwest. The underground extent of the collapsed cavern is presently unknown, however the region is underlain by the Windsor Group formation, which is composed of interstratified red beds, evaporites and carbonate rocks that are prone to the development of sinkholes. Gypsum and salt have been documented in the area, however, no bedrock is visible at the sinkhole due to a thick deposit of sand. The sinkhole continues to slowly erode along its margins, however the rate of growth has significantly slowed.

Biography: Presenter Amy Tizzard is a Regional Geologist with the Nova Scotia Department of Energy and Mines, working as part of the Integrated Resource Management Team. She started her path into the geological sciences at Sir Sandford Fleming School of Natural Resources in Lindsay Ontario, followed by an Honours Degree at Acadia University, a Masters Degree at the University of Victoria, and a GIS diploma at the Centre of Geographic Sciences, Lawrencetown, NS. She has worked with government and private industry in Canada, Australia and Africa. Prior to joining the Provincial government, Amy was stationed at a dormant copper mine in Namibia to explore for additional and remnant resources sufficient to restart operations.