

1836 - Groundwater Reporting and Management – An Example from Ontario, Canada

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Standard regulatory practices have emerged in recent years for geoscientists to quantify and report on resources that are of economic value (e.g. oil and gas, precious metals, diamonds, etc.). Public reporting on groundwater resources lags behind. Although difficult to quantify without sufficient drilling, sampling and analyses, the initial quantification (prior to extraction) of economic resources is at least fixed, based on the geological conditions that led to the resource deposition and emplacement. On the other hand, groundwater, at least in the extensive areas of temperate climates such as Ontario, is renewable and changing on a short term or year to year basis. Therefore, in addition to the drilling, sampling and analysis needed for economic resources, the monitoring and quantification of groundwater resources must be continually updated if the information is to be effectively used for sound decision making. Further complicating matters is the interconnectedness of groundwater with surface waters, as well as the vast number of agencies and/or disciplines, at every level of government, that are charged with various responsibilities around water (agriculture, environment, natural resources, fisheries, flood forecasting, watershed management, planning, etc.). Groundwater oversight is not solely a geoscience responsibility, there are many agencies and individuals, all collecting information regarding the quantity and quality of groundwater and surface water to assist society in making defensible water management decisions.

The Oak Ridges Moraine Groundwater Program is a comprehensive groundwater management program that spans a large part of central Ontario. The program continues to assimilate, compile and analyse geological and hydrogeological information from a large number of current and historical sources all of which is made available on a web-portal. Access to the information provides accountability to the public in that they can finally visualize long term water levels and investigate as to how various land use practices, including water taking, might affect groundwater resources.