

2010 MANITOBA ENVIROTHON

PRACTICE ORALS QUESTION

Background Information:

A major Groundwater Study has just been completed for Southeastern Manitoba (December 2009). This study outlines the bedrock geology and groundwater resources of this region of the province, which has seen substantial economic growth in the last decade. The study focuses on groundwater quality and sustainable yield, and further proposes that comprehensive steps be taken immediately to guide the management of this important resource. The study also outlines other agencies that are involved in groundwater resources, such as Conservation Districts, Municipalities, Manitoba Water Stewardship, and Manitoba Innovation, Energy, and Mines, and the role they should have in creating a groundwater management plan.

Question:

The southeastern region of Manitoba continues to enjoy economic growth. The city of Steinbach will nearly double in size in the next 10 years due as manufacturers locate there to take advantage of the low municipal tax rates and a large skilled labor force. Steinbach has become a manufacturing centre for products constructed from metal, fiberglass, wood, and biomedicinals. However, the local landfill site will be filled to capacity within three years. The new site will be within 5 miles of the city of Steinbach. The surrounding RM of Hanover and the RM of La Broquerie have a combined total of 750,000 LWU's (Livestock Waste Units) although that number is now stable and may decline by 10% in the next decade.

Recreation has become increasingly important in the region as well. A relaxation of development restrictions now means that up to 500 more cottages will be built in parts of the Whiteshell, and along the Whitemouth, Rennie, and Roseau Rivers, and on the shore of the St. Malo Reservoir and Whitemouth Lake.

Also, due to the recently signed Copenhagen Accord, there will be an emphasis on geothermal heat, and all new housing developments must use groundwater as a source of heat as of January 1, 2011.

Finally, as part of Canada's Atomic Energy Program, the AECL (Atomic Energy of Canada Limited) is building a 200 megawatt equivalent nuclear reactor in the Lac du Bonnet area, and is looking for a repository site for spent uranium fuel rods.

Your task is to write a groundwater management plan for southeastern Manitoba. In your plan, identify the specific risks of groundwater contamination based on the above information, and how you would solve or mitigate these risks.