

was estimated using a GIS processing model with precipitation and bedrock groundwater recharge ratio inputs derived from available climate and streamflow data. Municipal wells and residential and non-residential unserved groundwater users were plotted, and total groundwater use in each major groundwater watershed was estimated using the best available information. Few flow records could be obtained, and therefore groundwater use estimates often relied on typical water use figures for a given user type. Although the budgets have a high level of uncertainty, groundwater usage appears to be sustainable on a regional scale with groundwater use ranging from 0.1 to 12.5% of available groundwater. Groundwater budgets of selected subwatersheds are presented for comparison, and emerging issues with respect to groundwater sustainability are highlighted. The spatial database developed during this study will permit the integration of new and more refined data and a continuing evaluation of groundwater budgets. To improve the reliability and relevance of groundwater budgets, it is recommended that more detailed work should follow in the higher priority areas identified during this study at a more local scale.

**Estimation of regional groundwater budgets in
Nova Scotia using a desktop GIS approach**

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Regional groundwater budgets were estimated for 44 major groundwater watersheds across Nova Scotia. Groundwater watershed boundaries were assumed to correspond to primary surface watershed boundaries, since groundwater flow boundaries are not well defined in the province. Groundwater availability