

Hydrological Balance in Moose Mountain Provincial Park

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Moose Mountain Provincial Park (MMPP) was developed in south-eastern Saskatchewan's Aspen Parkland Ecoregion to conserve and maintain the natural scenery while also providing amenities for outdoor recreational activities. The Park is located in the Aspen Parkland Ecoregion. Several times throughout geological history, this entire area was covered by glaciers. The ice was thinnest over the highest points of land, while the thickest ice formed over the lower elevations. In the depressional areas, the remaining ice gradually melted and today sloughs occupy many of these shallow areas. In the subhumid continental climate of the Prairies, water levels in lakes across the region fluctuate in a similar fashion when examined over a long time period, especially those in closed-basin watersheds. The hydrological regime, such as maintaining the park's surface water levels, is essential for sustaining ecosystem and species diversity. The variance in the park's surface water level can be influenced by human activities, diverse species' actions, and hydroclimatic trends. Low water levels at Kenosee lake are the key concern in MMPP. Kenosee Lake is the most utilized lake in the MMPP. The purpose of the study is to determine why the water level fluctuates and decreases in Kenosee lake. Monitoring long-term changes in water surface and water volume using remote sensing and geographic information system (GIS) and simulating the water balance in the park using CRHM are the specific aims of this study.