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Aquatic Habitats in the Lower Athabasca Region: Lakes

Lakes are permanent waterbodies greater than 0.25 ha in surface area and more than 2 m deep. Worldwide, lakes are the largest reserve of surface fresh water (Kalff 2002). In Alberta, lakes and streams cover nearly 16,800 km², or about 2.5% of the province (Prepas and Mitchell 1990).

Lakes vary in morphological features, such as depth, extent of shoreline, basin shape, and basin geology. They also vary in their surrounding vegetation, climate, and river inflows and outflows. These characteristics influence the physical and chemical environment of a lake, which in turn affects its biological characteristics. Habitats and the distribution of aquatic organisms can vary significantly even within a single lake, depending on water depth, dissolved oxygen levels and light penetration, distance from shore, and lake bottom substrate.

Hundreds of lakes, ponds, and wetlands are found in the boreal forest of northern Alberta. Most of these lakes are shallow and nutrient rich, and support substantial populations of rooted plants and algae (Prepas and Mitchell 1990, Joynt and Sullivan 2003). Fish inhabiting the lakes of this region have adapted to conditions such as heavy silt, low oxygen levels, and large changes in temperature (Joynt and Sullivan 2003).

Some of the larger lakes in the region of the lower Athabasca River include Gregoire Lake, Gordon Lake, McClelland Lake, Gardner Lake, Namur Lake and of course Richardson Lake, Lake Claire, Mamawi Lake and [Lake Athabasca](#) associated with the [Peace-Athabasca Delta](#).



Sunset over a lake in northern Alberta.

Source: Jane Elser
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