

Geography of Chequamegon Bay ¹⁵⁸ -1

The geographic focus and the center of settlement and economic activity in the Chequamegon Bay region is the bay itself. Oriented along a northeast-southwest axis, it is about 12 miles long to the sand spit that lies across its mouth and is about 10 miles wide at that point.

This spit extends northwestward from the southern lowland to within about four miles of the Bayfield Peninsula and consists of Chequamegon Point and Long Island, the two separated by a narrow water gap.

The spit and island serve as a natural breakwater, protecting the bay against the fury of storms on the main lake. The water is shallower in that part of the bay that lies to the southeast of a line from the outer tip of Chequamegon Point southwest to the head of the bay, and at the head of the bay itself, than on the northwest side, where it ranges in depth up to 70 feet.

The Chequamegon Bay region lies in the Lake Superior lowland, one of five geographic regions into which Wisconsin is divided. Although the bay region is part of the basin of western Lake Superior, its geologic history is different.

The western end of the lake basin (not including the bay area) was formed when a block of crust dropped down to form a rift valley called a graben. The Duluth escarpment to the north and the highland south of Superior are the eroded



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remnants of the great faults thus created.

This rift valley was subsequently filled with sedimentary rocks that were then removed by glacial erosion during the Pleistocene period, giving the basin essentially its present configuration.

The major features of the Chequamegon Bay region — the bay itself, the Bayfield Peninsula, Apostle Islands, and the Ashland plain — were probably formed by glacial modification of pre-existing drainage patterns in the ancient sandstone during the last glacial age, 10 to 50 thousand years ago.

This glacier, the Wisconsin, advanced into Wisconsin from the northeast in great tongues or lobes — the Superior lobe to the north and the Chippewa lobe to the south.

As the glacier retreated, that is as its front gradually melted away,

the meltwater formed a lake (Lake Duluth) between the face of the glacier and highlands to the south.

The retreating glacier also deposited on top of the ancient sandstone huge quantities of mixed sand, clay, and rocks of all sizes that it had scooped up as it advanced. The highland of the Bayfield Peninsula is a ridge of such glacially deposited materials heaped up on the underlying sandstone between the two glacial lobes to 600 or more feet above lake level.

The terrain at the summit (the "barrens") is hummocky with numerous circular depressions or "potholes" characteristic of kettle moraine. The predominant type of soil here is sand of various grades of coarseness, except for patches of loamy sand or where organic materials have been laid over or mixed in with the sand.

Lake Duluth laid down a terrace of clay around the drift material of the highland and a thick layer on the Ashland plain and the Apostle Islands. The numerous rivers and creeks that flow into the lake down the flanks of the highland have swept out broad valleys in the soft clay and cut narrow gorges into the sandstone.

The Apostle Islands are an extension of the Bayfield Peninsula, the channels separating them from each other and from the peninsula having been created by water and glacial erosion.

The Ashland plain rises gradually from the wetlands and bluffs at its coastal margin until it abuts the highland that surrounds it from the northeast to the southwest.

This highland area consists of two ranges, the copper range and farther south, the Penokee range. The copper range, a continuation of the copper bearing formations of the Keweenaw peninsula, forms the frontal escarpment of the highland.

Near the mouth of the Montreal River the copper range rises rapidly to an altitude of 500 feet above the lake, trends southwest to the vicinity of the Brunswiler River, and then continues just southwest toward Lake Namakagon. While eastern portions may attain altitudes of 700 to 800 feet above lake level, for most of its length it ranges from 550 to 650 feet above the lake.

Farther south the Penokee range, a topographical continuation of the Gogebic Range to the east in Michigan, trends generally northeast-southwest, rising to heights of from 900 to 1,200 feet above lake level. It is broadest near the Montreal River, becoming narrower to the west and declining rapidly to the local terrain elevation near Mineral Lake.

The copper and Penokee ranges are geologically distinct, but topographically they merge into a broad band of highland of which the latter range is the most prominent.