The foliose lichens attain their optimum development on the Arctic Slope and seldom reach an equivalent stage of development in the Arctic alpine areas, because of the differences in the quality of the climate in the two regions. The presence or absence of mosses and lichens has less effect on mammals than does the presence or absence of sedges and grasses. Mosses and lichens form a protective layer in which small mammals build runways and nest, but this layer decomposes less on the Arctic Slope than in the Arctic alpine areas to the south.

The Arctic Slope is a broad and continuous ecotone between the coniferous forests and the more northern lands that support principally lichens and mosses. This ecotone is characterized by great expanses of terrain whereas in the Arctic alpine areas this ecotone, because of the physiography of the mountains, is generally of limited extent and in many places occupies a zone less than a hundred feet in vertical extent on the side of the mountain. The major part of the ecotone, made up by the Arctic Slope, is far removed from coniferous forests and there is less seasonal movement of mammals from the slope to the forests than there is from the Arctic alpine areas to coniferous forests. The differences enumerated above permit the survival of more kinds and numbers of mammals on the Arctic Slope than on the Arctic alpine areas farther south.