



# ON THE POND



## HISTORY OF THE GREAT SALT POND SERIES

### A Treasure of Sediment – Formation of the Great Salt Pond

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One must guard against the nostalgic notion that land and seascapes are all perfect and stable. The tale of land on Block Island is one of a finite resource disappearing. Large bluffs that surround much of the island continuously erode and this treasure of sediments of gravel and clay bleed off into the Atlantic.

While Block Island is unique it certainly is not special when considering her nearby cousins also formed from glacial moraines that compose Long Island, Nantucket, Martha's Vineyard and Cape Cod. These massive piles of chewed up debris, formally solid bedrock from the north now towered up in ridges hundreds of feet high. These barren banks of gravel and boulders contained no sand or green vegetation. Thousands of years of geological forces would yield the sand to form the beaches and sand dunes that are now synonymous with the region today. Known as the "Outer Lands" these recently created land features (in terms of geologic time) are completely different from the rest of mainland New England. Glacial till of these "Outer Lands" is composed of a combination of gravel

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*A postcard from 1959, with a view of the island from the north, clearly shows the centrality of the Great Salt Pond. In covering roughly ten percent of the area of the island, this water feature has influenced all human inhabitants, starting with the first indigenous residents to those vacationing on the island today.*



and boulders. While thousands of years of a range of vegetation have produced a layer of topsoil, any digging on Cape Cod or these islands quickly reveals these glacial origins. One scholar described the core identity of these "Outer Lands" with the phrase, "like nuts in a frosting."

Change in nature is constant and since Block Island was formed and is being deformed by water, the rate is accelerated compared to many other New England landscapes. The yin and yang of Block Island is the glacial ice which formed the glacial deposits from which she was born 20,000 years ago and the Atlantic wind and waves which slowly consume her. Considering the formation of Block Island in the last Ice Age one needs to think in geologic time. Roughly 60,000 years ago, in the final stage of the Pleistocene era known as the Wisconsin stage, the glaciation of the last Ice Age was reaching its peak. The whole process commenced when massive amounts of snow began accumulating in the area today known as Labrador. Snow falling year after year slowly concentrated into ice. So much snow fell not only in North America, but also in Europe and Asia, that sea levels began to drop. Glaciation concentrated ice 10,000 feet thick, so much weight it compressed into the very crust of the earth. As the glacial ice accumulated two miles high it expanded outward. Vegetation and lakes in the path were simply consumed. Even solid mountains were scraped clear of any plant life and ground down under the weight of the ice.

No humans witnessed this particular icefield at its peak, smothering what would become known as New England, but it would have been incredible to behold. Ice covered all of what we call Canada and extended south into present day Montana, Ohio and New England. For this narrative, the edge, where glacier met solid earth or the sea, is central. Delineation of the boundary of the furthest extent of glaciation yielded deposits of boulders and gravel that make up the chain of islands running west to east from Long Island to Nantucket. The creation of the glacier was slow and so was its initial demise as this peak extension lasted for thousands of years. Eventually melting equated with retreat. Ice sheets over New England became thinner and the process of melting accelerated. Retreating glaciers on three continents caused ocean levels to rise. The tallest sections of glacial deposits left behind by the retreating glaciers did not succumb to the rising seas. Thus, Block Island came to be.

The first Block Island formed when sea levels rose to within 100 feet of the present level. The original island was three times larger and shaped like a rough diamond. In coming to grips with these multiform transformations, Les Sirkin wrote the book *Block Island Geology*, in which he stated, "The processes and the rising sea are continuing to reshape the Island, steadily releasing its treasure of sediment into the encroaching sea with the probability of creating as dramatic changes in the future as have occurred in the past." Sirkin points out the fascinating fact that as the sea levels rose the singular larger island transformed into two islands. The highest points on these respected islands were Beacon/Pilot hills to the south and Corn Neck Road to the north. The gap of seawater between these two islands would be the location of where the Great Salt Pond would come to be.

The shifting currents on the eastern and western shores of these two islands, which moved in the directions of north and south, slowly but steadily formed barriers of sand. Overtime these barriers of sand extended accumulations of deposits long enough to connect both islands. As two of these formed, one on the east and one on the west, seawater was eventually entrapped and thus formed the first Great Salt Pond. The goldilocks conditions, meaning seawater levels not too high or too low created this brackish water feature, which equated to roughly ten percent of the area of Block Island, being separated from the open ocean by just barriers of sand. A rich ecosystem was the result, one which the first humans to reside on the island would be drawn to.

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