

Seward's Hill – Chester's Mystery Mount

By Edward Ng – Chester Historical Society
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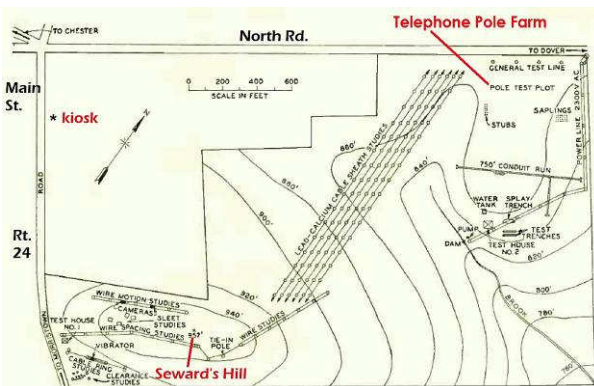


As you drive out of Chester on Main St. easterly towards Mendham, Seward's Hill rises abruptly out of the meadows to an elevation of almost 1000 ft. Closer inspection of the north facing slope shows a set of rugged doors in a cutaway section of the hill – a bunker? This article was written to provide hikers with information along Patriots' Path which runs over the Hill. It is posted, along with the geology article, and maps in the kiosk (designed, built, and installed by Eagle Scout Michael Servais).

“Lake”, “Alaska”, “telephone pole farm”, and the “dry land ship” aren't often associated with a Patriots' Path hike. However, since Seward's Hill is the high point (literally and figuratively) of this part of Patriots' Path, an explanation of these terms will shed light on the surrounding geology and history.

“Lake” is Lake Succasunna and is explained in Prof. John Puffer's summary of the makeup and geology of Seward's Hill (see below). Man made hill? NO!

“Alaska” - Fast forward about 21,000 years from the last glacier to 1738. Obadiah Seward, who was born on Long Island, purchased several hundred acres of land encompassing Seward's Hill. His house, enlarged and remodeled in a vernacular Greek revival style, is still visible along Patriots' Path (555 E. Main St.). Obadiah was the great grandfather of William H. Seward, Secretary of State under Abraham Lincoln and Andrew Johnson. He purchased Alaska from Russia while serving under Johnson. He was roundly criticized and the Alaskan territory was called **“Seward's Folly”**. Of course, history has more than vindicated William Seward. He never lived in Chester, but was a frequent visitor.



The Chester field laboratory, showing location of buildings and of the principal studies - 1931

The **“Telephone Pole Farm”** is an iconic fixture of Chester since 1930.

The pole farm was a research site to improve the longevity of telephone poles in the ground. Different preservation techniques were tried and then samples of wood regularly tested for degradation¹.



1931. C. Q. Lumsden taking a core sample from a pole. Seward's Hill is in the background.

The story begins in 1928 when Seward descendents rented 15 acres to the telephone company, AT&T. In 1925 Bell Labs was created to do R&D for AT&T. Bell Labs needed an

¹ “The ‘Telephone Pole Farm’ – A Chester Icon” by Edward Ng in CHS News & Views Spring 2015. See footnote 1.

outdoor field laboratory and it chose Chester primarily because of Seward's Hill (957' elevation). By 1930, 100 acres were bought or rented. The property was large enough to encompass mile-long runs of cables on poles and host a number of test sites exposing equipment to extreme sunshine, wind, rain, sleet, ice, flooding, vibrations, and dust. Eventually over 200 acres would be purchased mostly from the Seward descendents.

“Dry Land Ship” is one of the more fantastical stories associated with Chester Bell Labs and Seward's Hill. In the 1950's AT&T decided to do the biggest upgrade to its underwater trans-Atlantic telephone cables in nearly a century. One of the challenges was how to lay the new cable with 3 foot long repeaters (amplifiers) that

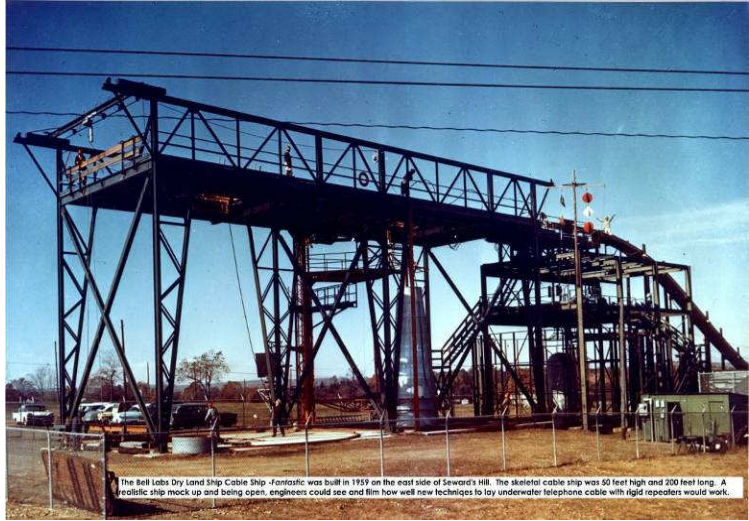
were solid rather than flexible.

Bell Labs decided to build a skeletal mock up of a full size cable ship at Chester to allow the testing and filming of the many possible configurations and procedures for laying cable and repeaters. The model was called the Bell Labs Dry Land Cable Ship (BLDLCS), nicknamed “Fantastic” and was 50' high and 200' long. It was anchored to the side of Seward's Hill. A test is

shown in the image above, a repeater is observed moving down the chute. The project was successful and spawned a generation of successful AT&T “Long Lines” cable ships.



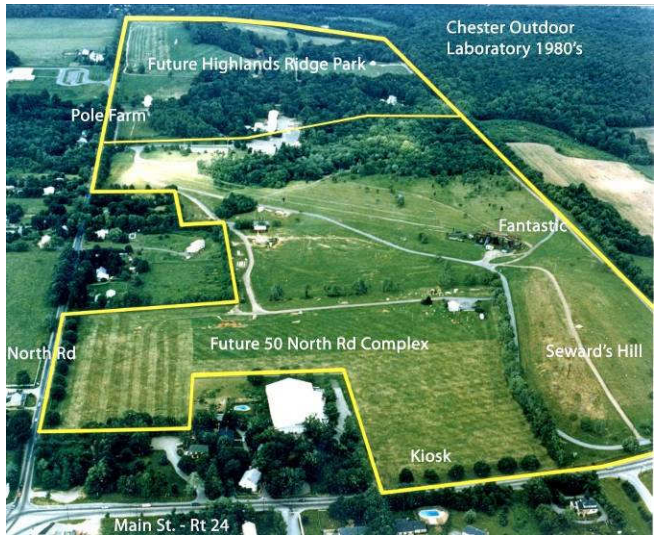
Engineers study section of cable containing dummy amplifier being played out. Inscription on life preserver stands for "Bell Laboratories Dry Land Cable Ship Fantastic."



The Bell Labs Dry Land Ship Cable Ship - Fantastic was built in 1959 on the east side of Seward's Hill. The skeletal cable ship was 50 feet high and 200 feet long. A realistic ship mock up and being open, engineers could see and film how well new techniques to lay underwater telephone cable with rigid repeaters would work.

In 1983 the AT&T monopoly was broken up. In 1984 the Chester Lab was split between the regional Bells and the original Bell Labs. Research in Chester stopped by the early 2000's. The northern half was acquired by Chester Township

and became Highlands Ridge Park with an address of 100 North Rd. The other half of was acquired by Chester Borough which created the 50 North Rd. Municipal Complex.



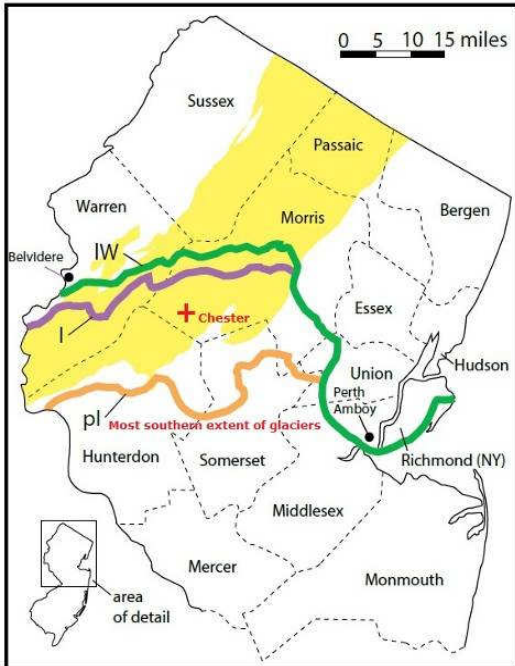
Looking north from Seward's Hill Summit - Nov. 2011

Had it not been for the Chester Outdoor Lab, this property would have been developed long ago. Hopefully, future developments will be more trails, history, and points of interest. Enjoy your hike on Patriots' Path and revel in the view from the top of Seward's Hill. ■

The Geological History of Seward's Hill

By Prof. John Puffer and Edward Ng - Poster in the Patriots' Path – Seward Hill Kiosk
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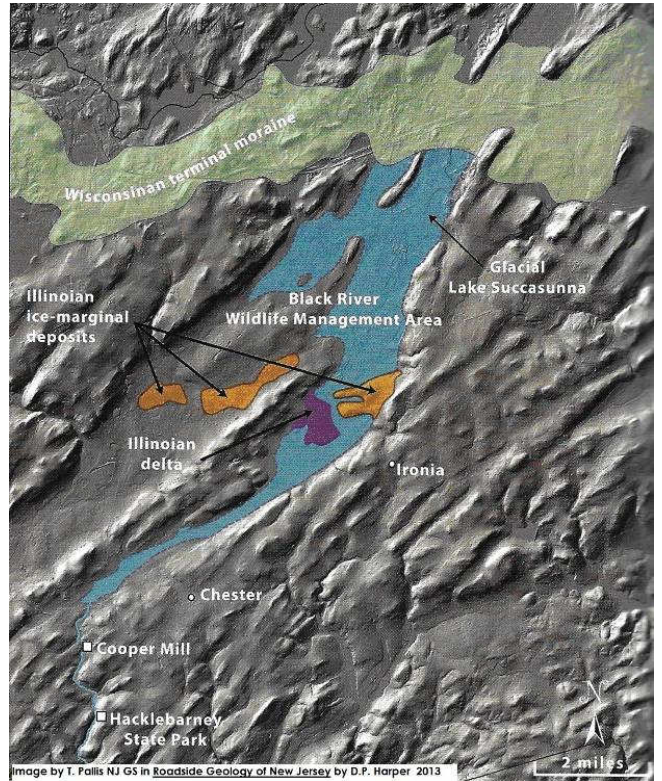
Limits of Glaciation in NJ



Limits of glaciations in New Jersey. The trace of the late Wisconsinian limit (IW) generally marks the position of the Terminal Moraine. Key: IW - late Wisconsinian, I - Illinoian, and pl - pre-Illinoian.

- >800,000 years ago Pre Illinoian** — orange line
- 150,000 years ago Illinoian** — purple line
- 21,000 years ago Wisconsinian** — green line

Over 800,000 years ago, the spot where you are standing, could have been overlain by 4,000 feet of ice. At that time glaciers of the Pre-Illinoian period extended well south of Chester (see map left). Two subsequent glacial periods, the Illinoian and



the Wisconsinian, did not progress as far south, but after they retreated, glacial Lake Succasunna formed, making what are now the swamps and marshlands around the Black River, just a few miles from Seward's Hill

(see map right). One can only speculate on the origin of Seward's Hill, but the Losee Gneiss of Seward's Hill is harder and more resistant to erosion than most rock and is commonly found along ridge-tops throughout the New Jersey Highlands. There may have been faults that broke up and softened the rock adjacent to Seward's Hill that made them relatively easy to erode away. ◼

References

- Glacial Sediment and the Ice Age In New Jersey. New Jersey Geological Survey. 1998.
- <http://www.state.nj.us/dep/njgs/enviroed/infocirc/glacial.pdf>
- Roadside Geology of New Jersey by David P. Harper 2013.