Locations and Setting

Hurricane Island is located on the southwestern fringe of Penobscot Bay’s Fox Island archipelago. Very thin soils cling to the steep granite slopes and vales with frequent exposed fields of course grain bedrock. Within the island’s 125 acres are four prominent elevations, the highest reaching 163’. A shallow meadow is nestled between the two tallest peaks and nearly transects the island. Elsewhere, wherever there is soil, the vegetation is dominated by coniferous forest. Interspersed with the dominant spruce are scattered deciduous species.

Granite operations have significantly altered the island. A large pond and abutting headwall at the south end were carved from the quarrying activities. Many tons of granite ‘broke’ were deposited along the south and east shorelines creating a substantial overburden. Because of the lack of their depth, the soils are fast leaching.

Precontact Era

The prehistoric record of the island has yet to be recorded. Within the neighboring White Islands, Greens Island, and Vinalhaven the activities of indigenous peoples have been documented. At the northern reaches of the Fox Island archipelago on the island of North Haven extensive study at the Turner Farm site has yielded insight to the seafaring tradition of native cultures.

On the north shore of Hurricane Island evidence of a drowned midden (MHPC 29.170) can be found within the tidal zone. Significant erosion has resulted in nearly the entire feature being lost. Some of the material has been redeposited on the low terrace that edges the shore.

Historic Era

The historic past of the island is vague until the rapid development of a quarry based company town. From 1807 until title passed to Davis Tillson in 1870, the island had several individual owners. As late as 1848 the entire island, known then as ‘Great Hurricane’, was sold for $75.00. Starting in the 1850’s Hurricane’s value started to increase as financial opportunities were recognized at the bloom of Maine’s granite industry. The Ginn, a family that invested in other neighboring islands and established a quarry on Greens Island to the east, sold the island to Davis Tillson and two other investors. Whether granite was quarried prior the 1870 acquisition or whether earlier fishing/farming activities took place is unknown.

Tillson and his partners invested heavily in Hurricane Island. Heavy machinery was brought in. A town quickly sprang up. Foreign and domestic workers and their families swelled the village. This was a company town. Tillson’s firm owned all the assets, homes, store, wharves, streets, land, and even the ferry to the mainland. Worker’s pay was deposited in the company store with rent, groceries, coal or firewood, clothing, and fines for transgressions deducted.

A diverse, multi ethnic community developed dominated by Italians, many not speaking English. Other groups included, Finns, Irish, Swedes, and Scots. In the midst of the great American
labor struggle, the issues of worker rights, safety, and wages were played out on this tiny Maine island as laborers clashed with Tillson’s conservative and autocratic management style. Despite its rapid development, cultural mix, and labor struggles, the granite business flourished. Stone was brought in from other Tillson quarries to be finished in the great arc shaped building on the island’s south shore. During the height of activity hundreds of workers daily arrived by ferries from neighboring islands to supplement the town’s workforce. By 1878 Hurricane Island became an incorporated town.

At the beginning of the twentieth century improvements in steel manufacturing and production of cement introduced new construction methods, resulting in a rapid decline of the granite industry. Tillson’s death in 1905 and the subsequent sale, in 1910, of the Hurricane Island Granite Company hastened the fall of the once vibrant island community. In 1915 the works closed, the remaining population left. For over twenty years the island saw little activity except for occasional summer visits from former residents. In 1936 the Gaston family, who own it today, purchased the island.

From 1964 to 2005 the island was home for an Outward Bound School. In 2009 most of the island was leased to Hurricane Island Foundation to be used for education programs and a field station as the Hurricane Island Center for Science and Leadership.

2015 Fieldwork

Fieldwork was carried out in the spring and summer of 2015 on April 22, May 20 & 21, and from July 13 to July 17. An initial pedestrian survey covered most of the island with the exception of the area encompassing the Gaston family compound that is located on the southwest peninsula. Despite steep granite slopes and craggy outcroppings there is little of the island that has not experienced alteration due to settlement and quarrying. The eastern shore wharfs are extensive and a buttress of great cut stone slabs creates an overburden of the geological formed shoreline. To the south, are the remains of the industrial multiplex that included rail lines, power plant, polishing sheds, and a great arched finishing building. Just north, along the east shore is evidence of the commercial heart of the community. Behind that on the low sloping granite vale, foundations of residential occupation dot the landscape along with occasional ruins of social and civic structures. These extend north along the east shore to a second and a third quarry works both bordering Valley Cove.

Evidence of indigenous occupation was found on a precipice overlooking the north shore and along the shoreline itself. Extensive erosion has taken place in this area as no granite bulwark was created here intentionally for wharfs nor created incidentally by discarded quarry broke deposited at the water’s edge.

Along the northwest coastal perimeter there is evidence of a farm with a long abandoned apple orchard and a cemetery. Quarrying evidence suggests that limited harvesting of large dimensional stone blocks took place shore-side at various locations along the western edge of the island, although no major quarries were developed there.

The remains of ‘motions’ or small paving stone operations can be found throughout the island even in the most remote locations. These were generally single individual processing areas where a worker could supplement income by turning out cobblestones when employment at the quarry ceased because of seasonal closure or economic downturn.

Two exploratory transects were laid out along with test pits by the existing active wharf. The first transect was on low terrace skirting the island’s north shore close to MHPC site 029.172. Six one-quarter (¼) meter units were opened along a 52-meter distance. The soil composition increased in sand content with depth. Small stones dominated the lower levels. Small to micro particles of bivalve shell were present throughout the excavated depth of the units.
In all units, a line of cobbles edging the landside of the terrace was found indicating the presence of a road ditch at an earlier time. The roadway followed the base of an elevated granite outcropping. Artifacts found were not in situ. It is unclear if the strata were disturbed entirely by the building of the shore road or if natural forces had, as well, contributed.

Among the recovered items were prehistoric projectiles, scrappers, and debitage that were shore worn. Three items were found in a pedestrian survey of the beach immediately adjacent to an eroding shore terrace. Two of these were scrappers and the other was a discarded perform.

Historic items such as ceramic shards, nails, coal, and glass fragments were found throughout the units showing significant ground disturbance. The historic objects showed no signs of shore wear. A greater concentration of historic artifacts was found in the western units, which are closer to the abandoned farmstead.

Sea level rise and its subsequent erosion have completely removed the mudflats that were noted in the historic record. As erosion has progressed, sections of the old roadway have been lost as well.

The second transect was laid out parallel to the main thoroughfare of the village’s residential area. Here five 30” x 30” test units were opened. The location of this transect’s datum is in a park like setting with two horse chestnuts and an elm tree canopying the area. Soils in this location are the deepest and richest on the island. Close by is the foundation of the home of the company’s last superintendent. Across the road stood the small but salient Catholic Church.

Five units were opened along a one hundred foot transect. All were north of the traveled way. Artifacts recovered were far more frequent than the north shore units and offered a clearer understanding of life on the island during the granite era. White stoneware shards were the most common ceramic was found.

These units yielded numerous glass fragments that represented window, tumbler, stemware, lampshade, and bottle items. Many of the bottles shards came from a three-part mold manufacturing process. Several were embossed. Some were from bitters bottles and thus indicating a means of evading the strict ban on alcohol during Colonel Davis Tillson’s tyrannical management.

Smoking pipe stem and bowl items were found. Two stems were embossed with “McDOUGALL” “GLASGLOW”. Indicating a date of manufacture between 1846 and 1891.

Nails, including finish, framing, furniture, and upholstery tacks, dominate the metal object collection. Most were severely blistered.

By far, coal was the most common item recovered. The closer a unit was to the roadway the greater the concentration of coal was found.

Just south of the existing wharf house, the root structure of a blown down spruce tree revealed a shell midden. Close by three exploratory units were opened on a slope east of the

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1 The road’s presence is confirmed by the 1910 Knox County Registry of Deeds Plan, Book 1, Page 46.
2 Identifications confirmed by David Backman and Richard Doyle
building currently used for a classroom and storage area. Here in dark soils was a dense concentration of bivalve shells. Most were soft shell clam with some quahog present. A hinge to weight analysis showed that the average bivalve size was less than today’s two-inch legal minimum.

As soils got deeper they also became darker. Directly below the layer of shells was a deposit of coal and coal dust. Mixed into this stratum were square nail fragments, and ceramic shards including a single ironstone fragment.

It is reasonable to assume that the location, close to the wharfs, was initially used as a coal storage bin. Later the area was either used as a clam shucking work area and shells randomly discarded. Another possibility is that the shells were intentionally deposited at this site to build soils and cover the coal dust.

Over the years many items have been recovered incidentally and added to random collections, placed along foundation walls or set aside. This includes artifacts great and small from safes to buttons. Three stoneware shards with a clear white field bore an embossed image of the British Royal Coat of Arms and lettering “Stone China” “H. Burgess Burslem.” Although found in different locations within the village the same manufacturer is represented. These are the only back-stamped ceramics found so far.

Despite having no provenience some conclusions can be drawn. In an early examination of artifacts there seems to be a notable lack of diversity within a typologies. Shopping options were limited. The company store, where workers’ pay was deposited, supplied essentials but likely offered little variety. It appears that off island shopping excursions to Vinalhaven or Rockland were rare occasions.

One interesting artifact recovered by a Hurricane Island Foundation staff member was a portable blacksmith forge. It was found along a trail near the highest elevation on the island and near one of the “motions,” an independent cobblestone production location. It was made from a discarded brake drum; most likely a former rail application. It shows the type of ingenuity needed for life on an isolated island. The principle of use and reuse was likely a daily practice for people living on Hurricane.

The only foundation to receive a surface inspection was that of the superintendent of the granite works, Thomas F. Landers. This was one of the last homes constructed and was nestled near the top of the vale close to the datum point for the T2 transect. The Landers family had the longest tenure of all who lived on the island. Thomas’ father had risen from quarryman to superintendent. His son later assumed the senior Landers’ position. A self educated and highly successful engineer, Thomas Landers was well regarded by his workers. He is the last superintendent and kept the granite operation going despite the imminent collapse of the industry to less expensive construction techniques. The loss of a critical shipment of stone and Landers untimely death lead to the town being quickly abandoned in 1910.

The Lander’s home was unique. Resting on the island’s most ideal spot of land it was laid out in the shape of a cross. The unique design of the building served a functional that was different from all other structures. Its vestige provided great visibility and offered a panopticon\(^4\) presence where from most residential settings it seemed that the house’s occupants could watch all activity within the community. This would have led to the impression that Thomas Landers intimately knew the

\(^4\) The concept was first proposed by Jeremy Bentham. Thanks to Jeffery Benjamin, Columbia University degree candidate, for his recognition of this design and its role in Hurricane’s past.
activities of the town’s inhabitants. Lander’s management of this isolated, ethnically mixed coastal town was far subtler yet far more successful than Davis Tillson’s despotic style. The structure’s setting and uncommon configuration seem to be well planned in aiding Landers’ administration.

Foundation of the Thomas Landers House

The Thomas Landers house was one of the last residences constructed. The two horse chestnut tress and American elm that canopy the yard today were planted around the time of construction.

Circles area shows the vacant location where Landers home was evidently built
Transect #1

Transect #1 Artifacts:

- Coal lumps: 16
- Ceramics: 13
- Fire Cracked Rock: 11
- Metal: 10
- Debitage: 8
- Clam Shell: 7
- Glass: 7
- Scraper: 3
- Bone: 1

Notes on Transect #1 recovered items:

SOILS
There has been significant ground disturbance in this area because of a road that was laid out on the shore side margin. Very little contextual evidence can be gleamed other to confirm the presences of prehistoric and historic occupation.

COAL
Many of the lumps were “clinkers” (exposed to fire.) Coal and ash may have been deposited as road fill in the absence island gravel.

CERAMICS
Various earthenware shards were found, including whiteware, redware, ironstone as well as a single porcelain fragment.

FIRE-CRACK ROCK
The seven pieces of fire-cracked rock were all found within a single unit.

METAL
All of the metal was severely corroded. A spike and nail fragment were the only pieces to be identified. All items were found in a single unit close to a concentration of coal. No slag was found; making it doubtful this was a remote smithing site.

DEBITAGE
Of the flakes recovered, two were quartz. Most were found at the east end of the transect.

CLAM SHELL
A profusion of minute shell particles were found from the surface to the granite base of each unit. Seven small clam shell fragments were recovered. These were too small to conduct age or size analysis. It is not possible to connect them exclusively to prehistoric or historic occupation.

SCRAPPER
The three thumb scrappers found were unifacial Kineo Rhyolite. All three were found at the east end of the transect.
Transect Line
Datum: UTM 19T; Easting: 508902.00; Northing: 4876220.00
295° NW; 52 Meters
Units: ¼ Meter Square

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Transect #2

Transect #2 Artifacts:
- Coal lumps: 81
- Glass: 52
- Metal: 32
- Ceramics: 28
- Slag: 6
- Pipe: 4
- Faunal: 2

Notes on Transect #2 recovered items:

COAL
Most of the coal lumps can be identified as lignite or bituminous coal, which was the least expensive and produced the most toxic fumes. Interspaced among the collection are a few 'clinkers.' Historic photos and the 1915 map of Hurricane confirm the presence of a large coal shed on the Island's ferry dock. This is further supported by excavation of test pits east of the HIF lab (2015) where a significant deposit of coal dust was found. Although historic photos do show extensive cordwood stacked by the east shore, the use of coal would have provided a more practical home heating source. One historic photo of the inside of the island store shows a coal stove. This fuel would have also been used in great quantities to fire the steam plant, various steam engines, and as well as be used by the quarry's blacksmiths.

GLASS
Glass fragments represented tumblers, window, bitters bottles, and spirit bottles.
METALS
Most of the metals are nondescript items that are severely corroded. One small brass plate may be from the internal mechanics of a clock. Eight pieces can be identified as square nail. One metal item appears to be a machine key. Another is a fragment from a wire fence.

CERAMICS
Whiteware with a clear field was the most common ceramic recovered. Four ironstone shards and a single glazed redware fragment were found.

CLAY SMOKING PIPE
The clay smoking pipe fragments included W. White and McDougall manufacture, Glasgow. W. White was in production from 1805 to 1891. Several other bowls and stems have been found outside the context of this work. Many bear the “McDougall.”. It is common to find “White”, “McDougall”, and “Murray” produced pipes on 19th Century Maine coastal sites.

T2 Transect Line
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103° ESE; 100 Feet
Units: 30” square

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Random Test Units by HIF Lab (2015)

Three test units were opened east of the HIF Lab (2015.) Here a 40° slope is held firm by a deep-rooted grass surface. A layer of bivalve shells was found from 8 to 18 centimeters. Beneath the midden deposit is a layer of coal dust resting over the granite bedrock.

Found in situ were nails, glass fragments, and ceramic shards. Close by between the ferry dock and the abandoned shipping docks once stood Tillson’s Hurricane Isle Canning Company complex. Documentation notes that this plant used a steam process to pack “evaporated fish.”

A preliminary analysis of the shells indicates that most shells were clam with trace amounts of quahog. The average size was significantly below today’s (2016) legal standard. The most prominent season of harvest was early spring followed by late summer. The canning operation opened in 1881 and by 1884 the works had closed down.

If shucking took place within the cannery buildings, the shell deposit over the area covered with coal dust may have been an intentional and successful endeavor to build soils on the slope.

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6 Statistics of the Industries and Finances of Maine For the Year 1884 Third Report. Compiled by the Secretary of State, Sprague and son, Augusta: 1884.
Hurricane Soil Analysis

There may be few locations in Maine more difficult than Hurricane Island on which to settle a community. The remote isolation was secondary to the harshness of the setting itself.

Bare granite outcrops, steep slopes, and thin, poor soils limit plant growth. No grain fields or pastures can develop. Those few places where the ground could be aggressively coaxed to produce vegetation yielded only a marginal harvest. The few apple trees that were planted along with wild blueberry plants (Herbaceous) clinging to the rocky land offered little sustainable nourishment. Residents of Hurricane Island had to rely on a regular year round delivery of food supplies.

The island’s natural aquifer system has a very poor transmission and retention capacity. The few natural reservoirs that exist and those constructed are fed by a rapid surface runoff and do not recharge through a sustainable hydrological watershed cycle. The resulting impact on a sizable year round community that increased significantly by a superfluity of workers arriving daily made the quest for clean water a monumental challenge.

A striking similarity between the distribution of natural soil types and historic land use is evident. The area with the better soils (LrC) housed the residential community. In areas with the poorest ground, quarries were opened or these patches were left for scrub vegetation.

Description:

LrE Lyman – Rock Outcrop Tunbridge Complex with 15% to 45% Slope
Description: glaciated soils on low coastal ridges; 40% Lyman soil, 30% exposed granite, 10% Tunbridge soil, 20% other soils, rapid surface runoff, erosion a hazard, poor for farming, white pine potential (Hurricane has one.)
Lyman – shallow, excessively drained, bedrock depth 16”, subsoil dusty red fine grain loam, water capacity low.
Tunbridge – moderately deep, well drained, 3” forest litter, very dark brown 2’ fine sandy loam, subsoil 24” reddish brown fine sandy loam to dark yellowish brown gravelly fine sand loam, bedrock depth 31”, water capacity moderate.

LrC  Lyman – Rock Outcrop Tunbridge Complex with 8% to 15% Slope
Description: stones cover as much as 15% of the surface, 40% Lyman, exposed rock, 20% Tunbridge, 20% other soils.
Lyman – 3” forest litter, bedrock depth 16”.
Tunbridge – 3” forest litter, bedrock depth 24”, substratum is olive gravelly fine grain loam with a bedrock depth of 31”.

LrB  Lyman – Rock Outcrop Tunbridge Complex with 3% to 8% Slope
Description: 40% Lyman, 20% exposed rock, 20% Tunbridge, 20% other soils, 15% of surface area is covered with stones, poor for farming, suitable for pasture, residential use.

RmE  Rock Outcrop – Lyman Complex with 15% to 80% Slope
Description: 60% exposed rock, 20% Lyman soils, 20% other soils, 2” pinkish gray fine sandy loam, 14” subsoil dusty red fine sandy loam to yellowish brown gravelly fine grain loam, bedrock depth 16”, permeability moderately rapid, water capacity low, erosion a sever hazard, high seedling mortality.

Lyman soils are poor to very poor for most vegetation types, rated only fair for wild herbaceous. They are also considered severe for shallow excavations, dwellings with or without cellars, roads, landscaping, and septic/sewage systems.

Tunbridge soils are more suited for vegetation being rated good for grasses, wild herbaceous, conifers, open land and wooded life habitat. Tunbridge is considered severe for shallow excavations, dwellings with or without cellars, but moderate for roads and landscaping. As with Lyman, Tunbridge are severe for septic/sewage systems.

2016 Season Goals:

1. Determine the tenure of occupation and relevance to the town of Hurricane Island of the farmstead on the northwest shore.

2. Analyze the cemetery’s setting to gain an understanding the floral and topographical changes that have taken place since internment ceased.
Research Bibliography


Life and Death of an Island." Down East, February-March 1957, 14-17, 29.


*Statistics of the Industries and Finances of Maine For the Year 1884 Third Report*. Compiled by the Secretary of State, Augusta: Sprague and son, 1884.


