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I. Introduction

My name is Jane Tofel. I teach Earth Science at Cold Spring Harbor High School, Cold Spring Harbor, New York. My educational background includes a Bachelor's degree from Skidmore College in Geology, and a Master's from SUNY Stony Brook in Invertebrate Paleontology. I have been teaching in Cold Spring Harbor since 1990.

I am currently involved in a course at SUNY Stony Brook called "Research Projects for Earth Science Teachers." Each member of us will be generating field guides and/or student activities specific to our own school district or particular interests, and will be included at this website. My study area is in Caumsett State Historic Park, located on Lloyd Neck (For a discussion, see **History of Caumsett State Historic Park**.) One of my goals is to design some activities for Earth Science teachers to use with their students, written to supplement the Regents Earth Science Syllabus, and that utilize some of the resources at Caumsett. The first half of this packet is designed for the classroom; the second half is for small groups of students to do together, on their own time, at Caumsett. If you are an Earth Science teacher, the enjoyment of field work probably had a lot to do with your career choice. Another aspect of Earth Science that appeals to me is that it is, quite literally, everywhere. The students already have quite a lot of knowledge. Our job is to help expand their interest and understanding. I hope to encourage my students to discover the enjoyment of field work, as well as to demonstrate just how applicable classwork is to the world around them.

Please feel free to use whatever part of this you would like, either intact, or modified for your own locality. I plan to assign it in the spring, as a way of reviewing and reinforcing what the students have learned in the classroom. It may be mandatory or optional, as an extra credit assignment, or as part of the research project required in the Modified Earth Science Program.

II. Background discussion of geology of Caumsett State Historic Park

References that include a detailed description and interpretation of the geology of Caumsett Park per se are rare. There are, however, many general accounts of Long Island geology that can help put Caumsett Park into a geologic context. (For an extensive bibliography of Long Island Geology, visit www.geo.sunysb.edu/bib.) Detailed work of other locations with a glaciated history should be considered, but with caution. The behavior of a glacier is very dynamic and highly variable. Two locations that are geographically close, and were glaciated at the same time, may now look very different. Glacially sculpted topography must be studied on a fairly small scale. What follows, then, is a generalized summary of the geologic history of the region.

Long Island is essentially an elongate wedge of sediments, a part of the Atlantic Coastal Plain that stretches from Newfoundland to Florida. This plain rests on the continental shelf that dips gently toward the southeast. Because the edge of the continental shelf has been sinking gradually (currently the rate is 1 mm/yr.), the sedimentary layers that include Long Island are wedge-shaped, that is, thicker to the southeast, thinner to the northwest (Rogers, 1991).

This sedimentary wedge lies unconformably on ancient bedrock or "basement-complex" whose age varies from Proterozoic to Jurassic. The region that includes Long Island has experienced a long and complex past (refer to the "Earth Science Reference Table," pp.8-9, for the Geologic Time Scale and "Important Geologic Events in New York.") Bedrock exposed to the north testifies to multiple episodes of tectonic plate collision and mountain-building, rifting and erosion. The first orogenic event was the Grenville Orogeny. Approximately 1.0 to 1.4 by, the continental plate carrying what would become North America (proto-North America) converged with a continental plate from the east. The crust was squeezed and push downward perhaps 15-20 miles. At these depths, extreme pressures and temperatures resulted in widespread metamorphism. During this time, magmas moved up from below, cooling slowly underground to produce coarse-grained igneous rocks. At its highest elevation, this region may have resembled the Himalayas and the Tibetan Plateau, and was part of a Grenville supercontinent. Even as mountain-building was occurring however, erosion was also taking place, until only rocks from deep within these ancient mountains are now exposed in the Hudson Highlands. (Gates, 1991)

In the late Proterozoic (700 my), the Grenville supercontinent began to split apart, or rift, and the Iapetus Ocean developed. In the Ordovician (450 my), a long chain of volcanic islands called an island arc, which had formed in the Iapetus Ocean, moved toward and finally collided with proto-North America. This was the Taconian Orogeny, and the Taconic Mountains of eastern New York and western New England are the remains of that collision. The later closing of the Iapetus Ocean accompanied yet another orogeny, the Acadian. During this event, a small continent from the east, called Avalon, collided with proto-North America. Avalon terrane (material) is exposed in eastern New England. (Gates, 1991)

The last orogeny to occur in eastern North America was the Alleghanian, in the Permian (300 my). The African continental plate slid passed proto-North America, resulting in the extensive Appalachian Mountains. Each of these orogenic episodes provided the conditions necessary for crustal deformation (folding and faulting), igneous activity and regional metamorphism on an enormous scale. With each building-up, widespread weathering, erosion and deposition occurred, with consequent isostatic adjustment - where material was removed, the crust could rebound; where material was deposited, the crust could sink. In this way, rocks formed deep in the roots of mountains reached the surface of the earth. (Gates, 1991).

At about 220 my during the Triassic the large super-continent Pangea began to break up forming rift basins. Some of these basins became the site of the Atlantic Ocean. One of these basins in Connecticut contains a thick sequence of red sandstones and muds and basalts which filled the basin. The continents formed by this breakup North America, South America, Africa and Eurasia are continuing to move apart as the Atlantic Ocean continues to grow.

The remains of these basement rocks underlie Long Island, at a depth of at least 100 feet under the north shore, and 2000 feet under the south shore (Sirkin, 1991). By the Middle Jurassic, what were once mountains and plateaus had been eroded to a rather flat surface called the Fall Zone Peneplain, which dips gently toward the southeast (the bedrock/Cretaceous boundary looks steep in the Generalized Geologic Section because the vertical scale is exaggerated). The gradient of the peneplain approximately 80ft./mile (Merguerian and Sanders, 1996). During the Cretaceous, streams from the Appalachian Mountains to the east carried enormous amounts of sediments, (mostly sand sized and smaller) and deposited them in shallow water and on deltas. These sedimentary layers underlie Long Island, and are known as the Lloyd Sand, the Raritan Clay and the Magothy Formations. Each of these layers is thinner under the north shore of Long Island, and thicker under the south shore. During the Tertiary (66 to 2 million years ago), the region of Long Island experienced uplift, and was sculpted by running water and wind. What is now Long Island Sound was a large river valley, with tributaries flowing from New England and from Long Island. The harbors along the Long Island’s north shore, including Hempstead, Huntington and Northport Harbors, have been interpreted by some geologists as marking tributary valleys, which were later drowned as sea level rose relative to the land (Fuller, 1914).

The stage was now set for the chapter of this geologic story that most determined the way Long Island looks today. Late in the Tertiary, the global climate began to grow colder. By the Pleistocene, during glacial periods wintry conditions prevailed most of the year, even as far south as Long Island. In regions at higher latitudes, the increasing volume of snow that fell in winter did not melt or sublimate, even during brief, less-cold summer. Instead, it accumulated, compressing under its own weight, until conditions were right for this dense, plastic material to flow downhill as continental glaciers or ice sheets. The glaciers that would ultimately extend as far as Long Island had their origin in a center of accumulation in Labrador. For a period during the Pleistocene Ice Age, approximately 30% of the land surface was covered by glacial ice. This ice was as much as 1 mile thick. (Geologists know this because the highest of the Adirondack Mountains have glacial scratches near their summits.) With so much water contained in these ice sheets, sea level was perhaps 300 feet lower than today. That would place Jones' Beach and other south shore beaches in their present locations 70-75 miles away from the Atlantic Ocean. (Cadwell, 1991)

Continental glaciers, such as those that cover Antarctica today, move in two ways. Basal sliding involves the gliding of ice over bedrock, due to gravity. As a glacier extends into lower latitudes, there is increasing water all through the glacier, and the water at the base allows the ice to slide downhill. If it is too cold for any melting, the glacier will freeze solidly to the bedrock below. (Ehlers, 1996) Because of the great pressure inside the glacier, ice crystals become arranged parallel to the glacier's surface, and will slide passed each other in a process called internal deformation or "creep." The rate of both basal sliding and creep depends on the temperature, the thickness of the ice, and the slope. (Erickson, 1996)

As glacial ice flows, it moves enormous amounts of sediment. While some is pushed, bulldozer fashion, in front of an advancing glacier, most material is lifted from the ground as ice slowly flows over and around it. All sediment sizes, including loose boulders and even blocks of bedrock, can be "plucked" by the ice, and carried in the lower few yards of the glacier. Because sediment is embedded in the underside of the glacier, the effect is that of very coarse sandpaper on the surface over which the glacier flows, leaving the surface polished, scratched and gouged. (Ehlers, 1996)

When a glacier melts back, either during a warm season or when it has advanced into a warmer climate, it begins to deposit its sediment in many different bedforms. Glacial till refers to unsorted, unstratified sediment deposited directly by a glacier. It not only contains a wide range of sizes, but also can contain a large variety of rock types, determined by the area over which the ice has traveled. Moraines are ridges of glacial sediment form at the front of a glacier when the front remains stationary for a significant time. If this occurs at the furthest advance of the glacier, it is a terminal moraine. If the moraine forms as the front of the glacier retreats, it is a recessional moraine. Tills and moraines are further classified by the particulars of their deposition, but the terminology is not important here.

Not only are the processes of deposition important to keep in mind, but also the enormous amount of meltwater released by the ice. Even during an advance, liquid water can occur on the ice surface, within the glacier, and under it as well. The result is many meltwater streams, which usually emerge at the base of the glacier, infrequently, from the top (Ehlers, 1996). As these streams flow out of an ice sheet, they rework the glacially-delivered sediment into a variety of stream and delta deposits. Collectively, glacial sediment sorted and redeposited by meltwater is called outwash.

There are other depositional features associated with continental glaciation as well. As a glacier retreats, lakes can form between a glacial front and a moraine. These "pro-glacial" lakes result in well-sorted, very fine-grained lake deposits called varves. As a glacier retreats, a block of ice is often left behind, buried in till or outwash. When the block finally melts, a depression known as a kettle-hole remains. If it later fills with water, it is a kettle lake. The harsh climatic conditions associated with an ice age also provide strong winds that sort the finest sized particles and transport them many miles, depositing them as loess. Because the front of the glacier may also change positions many times in its existence, different depositional environments may be preserved, stacked one on top of another. When the ice sheet finally recedes (until the next ice age), the resulting topography and stratigraphy is complicated and intriguing.

The Pleistocene Ice Age was not a single event; glaciers advanced, melted back, and re-advanced many times. The last period of glacial advances is known as the Wisconsinan. Warmer intervals between periods of glacial advance are called "interglacials," and these conditions are recorded in the sediments as well. Geologists disagree as to which and how many of the periods of glacial advances are responsible for the sediments of Long Island. Sirkin (1996) and others affirm that only the two advances during the Wisconsinan can be identified. Sanders and Merguerian (1994) have suggested that five glacial advances left sediments on Long Island. Geologists do agree that there are two, extensive morainal features on Long Island. The Ronkonkoma Moraine extends from the middle of Long Island, out through the south fork, to Montauk Point and Block Island. A second, younger moraine is the Harbor Hill. It runs more or less parallel to Long Island's north shore, through the north fork to Orient Point and on to the south coast of Rhode Island. To the south of each of these moraines lies an outwash plain, produced when water from the ***melting glaciers formed*** streams that moved, sorted and deposited sediment downhill. This process explains why Long Island's north shore is hilly and rocky, while the south shore is flat and sandy.

Today, in the Holocene, processes continue to modify Long Island. Each storm erodes cliff faces and redistributes sediments along the shoreline. Humans, too, alter the land, filling in wetlands, adding groins and jetties to the coast, moving sediment to accommodate construction. Nevertheless, Long Island's topography is young from a geological perspective, and most of it remains as it was 22,000 years ago. Along the coast, erosion and deposition are often at work. The affects of these processes is enhanced by the continued sea level rise in this area (about one foot in the last century). While erosion of the coast is a constant concern, it also affords geologists ever-changing exposures of the sedimentary record of Long Island's geologic history.

That's the simple account of Long Island's glacial past. Many features visible at Caumsett, and other sites on Long Island and elsewhere, demonstrate how complex this pile of glacial sediment really is. As you walk through Caumsett, keep glacial processes of transport and deposition in mind. Try to imagine it is 22,000 years ago. A cold, damp wind hits you as you face a mountain of ice that stretches across the north horizon as far as you can see. All around are bare rocks, piled everywhere in mounds and ridges. If it's summer, perhaps you see low tundra plants taking advantage of the fact that the ground has thawed, if only to a few feet. You hear the rush of meltwater streams, whose water is milky with finely-ground rock flour. This was Caumsett, not very long ago, and the clues to its past are all around you. Have fun out there!!

III. Earth Science classroom and field activities for Caumsett Park

Purpose: to become more familiar with topographic maps, and to compare a map with an actual site (Caumsett Park)

Materials: U.S.G.S. 7.5' quadrangle map of "Lloyd Harbor" (for classroom use), Lloyd Neck portion of quadrangle for field use, 12" ruler, strip of paper (approximately 1" x 8"), Caumsett Park map, vertical section for profile projection (included in the procedure), protractor, camera of students' choosing, slide presentation by teacher, aerial photos, and any other representations of study area the teacher has assembled, other materials to be determined by the students

Procedure:

Part A: to be completed in the classroom

1. study the Lloyd Harbor quadrangle and the copied Lloyd Neck field map. The teacher will acquaint the students with the study area through slides, photographs, aerial photos, historical literature, etc.

2. construct a profile of Fishing Drive by doing the following:

a. mark the entrance to Caumsett Park on the field map as "A"

b. identify Fishing Drive on the Caumsett Park map and then locate it on your field map

c. with a ruler, draw a straight line from A, incorporating as much of Fishing Drive as possible, to the shoreline. Your line should pass between the "n" and the "d" in the name "Fly Island." Label that end of the line "B"

d. on the profile projection (included in this packet), label the vertical axis "elevation in feet" and number the lowest horizontal line 0, the next 20, then 40, and so on

e. place the long edge of your paper strip on line AB. Mark on the strip wherever a contour line intersects line AB. Record the elevation on your paper strip. Also indicate points A and B on your strip.

f. place the paper strip under the vertical scale, and project the elevation points to the appropriate lines

g. connect the points with a smooth, continuous line to complete the profile

3. answer the questions below

Vertical Profile projection

A vertical scale: 1.3 inches = 100 feet B

Questions

1. What is the horizontal scale of your topographic map? In other words

1 inch = _______ft. or 1 inch = _______mi. (approximate)

2. What is the vertical scale of this profile?

1 inch = _______ft. or 1 inch = _______mi.

3. Why are the horizontal and vertical scales different?

4. Your profile is exaggerated vertically. You can calculate the vertical exaggeration by using the formula:

vertical exaggeration = <u>horizontal scale (in feet/inch</u>)

vertical scale (in feet/inch)

Calculate the vertical exaggeration:

vertical exaggeration = _______________________

5. How large a piece of paper would you need if you were to use this vertical scale both vertically and horizontally? (Hint: find the length of Fishing Drive in miles, and then calculate how many inches, using the vertical scale, you would need to represent that distance)

6. From point A to the top of the first incline is the driveway into Caumsett Park. Using your topographic map, what is the gradient of the driveway, in feet/mile?

7. Using your protractor, what is the angle from the horizontal of the driveway on your profile projection?

8. Work with your team to devise a way of measuring the angle from the horizontal of the actual driveway at Caumsett Park. List the equipment you will require. Predict how the angle of your profile will compare to the angle of the actual driveway. Explain your answer.

9. On the quadrangle map, there is a stream (in blue) that flows between the "l" and the "o" in "Lloyd Neck." Locate it, and mark it on your field map. Does this stream flow into or out of the salt marsh? Give 2 reasons for your answer.

10. **Now you are ready to make plans with your team to visit Caumsett Park**

Refer to this checklist before you go. Remember to bring:

this packet and your ESRT

a ruler or tape measure, plus equipment for measuring the angle of the driveway

water, lunch, a hat, sunblock, bug repellent and/or a raincoat as the weather dictates

a camera (video or still, but remember, you will have to carry whatever you bring!)

common sense - which stay on the paths, avoiding poison ivy and ticks!!!

binoculars (optional, but nice to take along)

your best skills of observation

Part B: to be completed at Caumsett State Historic Park

It's a good idea for one person to write down what each picture is as it's taken. Later on, some pictures may be difficult to identify.

1. As you approach Lloyd Neck, you will drive along a causeway, or tombolo, which connects the Neck to Long Island. To the east of the causeway is Lloyd Harbor. It has been interpreted as part of an ancient stream that flowed east-west, and was filled with melt-water from the last glacier that stood near this place. Locate East Beach on your field map. Can you see East Beach from the cause-way? It probably formed after the glacier had retreated. How might it have formed?

On your trip along the causeway, check out the osprey nest to your east. It's a large wooden platform on a high post. Is it inhabit-ed? If so, how many individuals do you see?

2. Turn into the entrance of Caumsett Park, passed the guard booth, and proceed to the parking lot. (An alternative to walking Fish-ing Drive is to take bikes.) Don't forget, there is a $4 parking fee from May to October, but there is no fee if someone is just drop-ping you off.

Walk back to the driveway, and, using the method you devised in class, measure the angle from the horizontal of the drive. Work on the grass, <u>not on the road.</u> Would it be better to take one measurement, or several and average them? Explain.

Compare your field value to the value on the profile projection. Are they the same? If not, why not?

3. Go back to the guard booth, turn left, and walk across the field, heading north (the buildings will be to your right). On your left is one of the highest elevations on Lloyd Neck. From your field map, what is the range of elevation it could be? ___________

How is it designated on the topographic map?

Fishing Drive Activities

4. Continue walking passed the buildings (heading north). When you reach the unpaved road, turn left, heading west. You will first be walking toward a row of black locust trees, and then the road will turn to the right (to the north). You are on Fishing Drive. As you walk down Fishing Drive, refer to your field map and your profile. What features

do you encounter that are not on your map? How could you make the field map more accurate? Explain.

Fishing Drive lies along a topographic feature. What is that feature? How do you know?

5. Notice the open fields to your right as you proceed down Fishing Drive. Geologists sometimes call this topography "hummocky." Have a team picture taken with this topographic in the background. Describe how it looks.

6. As you walk passed the lower open field, look along the east edge of the road (to the right as you are walking north). In some places, you will be able to see the sediment that underlies the field. What does it look like? Is it well-sorted or poorly sorted? Draw what you see.

7. Remember the stream you identified in the lab. As you near the salt marsh, (which will be to your west), try to locate it along Fishing Drive. The maps indicate it passes under the road. If you can find it, in which direction is it flowing, toward or away from the marsh?

If you cannot find flowing water, how can you still identify the stream's channel?

This stream is considered "ephemeral," in other words, sometimes it flows and sometimes it doesn't. Using what you know about water budgets, explain how a stream can be ephemeral. Using terminology you learned when studying water budgets, under what circumstances would this stream flow, and under what circumstances would it not?

8. As you walk passed the salt marsh on your left (to the west), you will notice a small clearing on the left, and a bench made out of stone and cement. Using your ESRT, based on their size, how would you classify the stones in this bench? How many rock types do you see? Identify as many as you can.

Have a group picture taken at the bench.

9. The road makes a nearly right angle turn at this clearing. A short distance farther, and you will come upon a large rock on the left (north) side of the road. List any minerals in this rock that you recognize. How would you classify this rock? A geologist might note that this rock does not appear to have undergone a lot of weathering. Why would a geologist draw this conclusion?

Discuss the kinds of weathering to which this rock would be exposed.

10. Proceed passed the parking lot with the sign FD 2 and to the beach for the next activity.

What does FD 2 mean?

Beach Activities - Please, do not climb on the cliffs!

1. When you arrive on the beach, turn to your right (east), and begin walking. Notice the cliff that lines the beach. To the east of the wooden stairs, the layers in the cliff are man-made. This section was built up when the parking lot was constructed. To the west of the stairs, the layers that you see were made by natural processes. Describe the cliff just west of the stairs. Using your topographic field map, what is the elevation of the cliff near the stairs?

2. All of the layers you will see are made of sediment. Explain why they are visible, even from a distance. What separates one layer from another?

3. Review the meaning of the word "till." Do you see till in the cliff? If so, where?

4. As you study the cliff, you will see layers of sand that are many different colors, from tan to orange to brown. What gives the sand these colors?

5. In many places, the top of the cliff extends out as an overhang (like an awning or shelf). Why is this?

6. As you look at the cliffs, you will see bushes, even some trees, that seem to be growing in the middle of the slope. You are seeing examples of mass wasting. Explain what has happened.

What conditions would promote the kind of mass wasting that you see here?

7. As you walk east, you will soon see many layers of sediment that are tilted. Assume this is the position in which they are originally deposited. Two environments that will have non-horizontal layers are deltas and sand dunes. Which do you think these layers represent? Support your choice. Take a group photo in front of these tilted layers.

8. As you walk along the base of the cliffs, you may notice that sometimes the ground feels firm under your feet. What you are noticing is clay in the cliffs that was been transported down to the beach. There are two different clays at Caumsett. Gray or brown clays in undisturbed horizontal layers are Pleistocene in age. (How old are they?)

They may be most visible in the deeply eroded gullies in the cliff face or at the cliff base. Find some Pleistocene clay and photograph it. (Put a common object in the picture for scale.)

There are also Cretaceous clays here. How old are they?

These clays are brightly colored, blue, yellow, pink and red. Some are black. They may appear very distorted. Find some and photograph them.

These Cretaceous clays are found under Long Island Sound. Suggest how they have ended up on the beach.

Under what conditions are clay-size particles deposited?

9. There are many places along the base of the cliffs where you can see geologic structures on a small scale that look very much like large-scale ones. Locate and photograph an alluvial fan and a stream channel meander. Don't forget to put something in the picture for scale.

10. Under the right conditions, you may also find mudcracks in the sediment near the cliff base. If you find some, photograph them. In what sediment grain size do mudcracks occur?

11. High up in the cliff are some boulders. Find one, and take a group picture with this boulder in the background. How did it get there?

12. From your topographic field map, what is the highest elevation of the cliff?

From Fishing Drive parking lot to the east end of Caumsett Beach is over 1 mile. You do not need to walk that entire distance (although I recommend it if you have the time). Walk until the cliff is approximately 20 feet high. At this point, I suggest a break.

From here, you will be looking at the beach sediment, so you can be heading back toward the parking lot.

13. Using your ESRT and ruler, find as many <u>different</u> kinds of cobbles as you can. Collect them, and organize them into a classification system of your choosing. Photograph them grouped together according to your system. Describe your classification system below.

Are the majority of the cobbles you collected sedimentary, metamorphic or igneous?

You should find many different kinds of rocks. Explain why.

14. Notice the boulders (erratics) scattered on the beach and in the water (if you are there at high tide, some will be submerged). Explain how and why they are scattered this way.

15. Select your favorite erratic. Have a group photo taken with your erratic.

Identify and list the minerals that you see in this rock.

Estimate the volume of this rock by measuring its height, length and width.

Using the density for continental crust in your ESRT, calculate the mass of your erratic.

16. Look at the distribution of the sediment other than the boulders. Is there a pattern to the way the sizes are arranged? Describe any patterns you see and explain why they occur.

17. Notice the overall shapes of the sediments on the beach. Describe them and explain why they are the way they are.

18. List any questions you have about what you have seen. If possible, a photograph that goes with your question might be helpful.

19. If you were going to study this beach more fully, what kinds of activities might you do?

20. Congratulations! You have completed a <u>very</u> full day of geology field work!

As you walk back up Fishing Drive, discuss with your teammates who will be writing up this report, who will be getting the pictures developed, and so forth. You will probably need to meet once more, to go over your answers.

When you submit this report (one per group), please include your pictures with captions, one copy of the packet, and the names of the members of the team.

Hope you had a great day out there!

IV. History of Caumsett State Historic Park

Caumsett State Historic Park consists of approximately 1500 acres of beautiful woodlands, meadows, a wildflower field, a freshwater lake, a salt marsh and a rocky shoreline lined by a bluff that rises as much as 126 feet above Long Island Sound. The park occupies about half of Lloyd Neck, which is north of Huntington, on the Nassau-Suffolk County border. The area has long been valued for its wildlife and timber, as well as its rich farmland and abundant sea life. Lloyd Neck was first inhabited by the Mattinnecock Indians of the Algonquins Group. In 1654, the Mattinnecock Chief Ratiocan sold the area to British settlers from Oyster Bay. The price was: 3 coats, 3 shirts, 10 knives, 3 hatchets, 3 hoes, 2 fathoms of wampum (beads made from the purple part of clam shells), 2 pairs of stockings and 2 pairs of shoes.

With the advent of British settlers, the name of the region was changed from "Caumsett," which means "place by a sharp rock," to "Horse Neck." In the 1670’s, it became known as "Lloyd Neck," after the new owner, James Lloyd. While this Lloyd never actually lived on the property, renting it instead to tenant farmers, he nonetheless held the title "Lord of the Manor." In 1709, James’ son Henry took possession of the manor, and oversaw construction of a wood frame house (which still stands), a barn, a granary, a blacksmith shop and a schoolhouse. The property was supported by the sale of wheat, corn, pickled pork, bacon, beef, plums, peaches, apples (and cider), oysters and clams. Most profitable was the sale of the Neck’s timber. Fishing yielded quantities of bass, perch, blackfish, eels and sheepshead, and deer, quail, wild turkey and partridge were also abundant. The family also owned slaves during this period, including an individual named Jupiter Hammon. Hammon is considered by many to be the first African-American poet.

Except for the British occupation during the American Revolution, various parts of the land stayed in the Lloyd family until the late 1800's. During that time, a steamship landing had been built, and freight shipping and excursion cruises from New York City were a common sight. By the turn of that century, many wealthy New York families had chosen the North Shore of Long Island for their country homes. At its zenith, the famous Gold Coast was the site of 600 hundred estates, averaging 50 acres each. These large tracts allowed for a variety of pleasures, including a display of wealth and taste, but also hunting, fishing, polo, tennis, golf. And the names were impressive - Vanderbilt, Morgan, Carnegie, Frick - and Field.

One thousand seven hundred fifty acres of the Neck was purchased in 1921 by Marshall Field III, at a price of $1.5 - $2 million. But his concept of an estate was somewhat different from his neighbors. Having lived in England, he preferred a more comfortable, less ostentatious home for himself and his family. Some of the original buildings still remain, including the manor house (a Georgian structure designed by John Russell Pope), the dairy barns and silos, the carriage house (now a residence) and the stables. The estate had also included a pump house and water tower, bath houses, greenhouses, root cellars, dog kennels, servants' quarters and other buildings necessary for a self-sufficient estate. A stone jetty was added to the beach to help reduce erosion. Formal gardens, stone walls, access roads and paths were all carefully designed. Field also kept a steam yacht, the Coursande, at ***his dock. The final*** cost of construction and landscaping, aside from the price of the property itself, has been estimated at $2 - $2.5 million.

Even by the time construction was completed in 1925, the way of life on the Gold Coast was coming to an end. The enormous expensive of upkeep and heating, and maintaining a large staff, plus the pressures of encroaching suburbia, were more than most Gold Coast residence could endure. The Fields were no exception. Members of the family would spend time on the estate until the 1960's, but parcels were sold off, the east and west wings of the main house were removed, and ultimately, the remaining estate was sold to New York State for $4,275,000, "forever for park purposes." (A family friend, Adlai Stevenson, was instrumental in the negotiations with Robert Moses for the transaction.)

The park is now administered by the state Office of Parks, Recreation and Historic Preservation. While there has never been sufficient funding to completely refurbish the buildings and grounds, Caumsett is being protected and utilized in a careful, controlled way. Automobile traffic is restricted, but pedestrians, joggers, surf fishermen, cross-country skiers and bicyclists are welcomed. Various nature walks and educational programs are available. Facilities on the grounds include the Queens College Center for Environmental Teaching and Research, the Nassau BOCES Outdoor and Environmental Education Program, the Caumsett Equestrian Center and the Volunteers for Wildlife Hospital and Education Center.

Directions: To get there, go to Route 25A in Huntington Village. Turn north on West Neck Road. After about 6 miles, you will drive along a causeway and onto Lloyd Neck. At approximately mile 7, you will see a park entrance sign on the right (south side of the road), and then a "Welcome to Caumsett State Historic Park" on the left (north). Enter here, stop at the guard booth for a map and other handouts, park in the lot (there is a $4 parking fee from May to October), and enjoy your visit. If you would like further information, call (516) 423-1770.

V. Self-Guided Walk at Caumsett Park to be added, Fall 1998

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