

Field Trip 1: Uncovering streams in Central Park

Background for Educators

Mannahatta was covered in streams – over eighty streams flowed over the island 400 year ago. Some of these were ephemeral streams that only flowed in the spring, when snow was melting; some were rocky streams that flowed quickly down relatively steep slopes on upper Mannahatta; others were marsh streams that wound slowly through wetlands and salt marshes; a few were relatively large, wide streams, like Minetta Water, which flowed through present-day Greenwich Village, and Sherman's Creek, which flowed through present-day Harlem. Today, almost all of this water has been covered over in order to build New York City. But much of this water still flows underground, through pipes and tunnels. Recently, many cities have become interested in *daylighting* their underground streams. To daylight a stream is essentially to uncover it – to restore it to its natural, above-ground flow. Daylighting streams can help ease problems related to stormwater overflow and flooding. It can also provide natural beauty and can aid in restoration of native habitats in the city. On this field trip, students discover where one segment of an ancient stream ran through a paved area in Central Park, and will draw the stream back in on the sidewalk using chalk. After drawing in the stream, they draw in the plant and animal species that lived in and around stream and forest ecological communities on Mannahatta.

Central Park appears to be a natural environment – but in fact, this park was carefully designed by the famed landscape architects Frederick Law Olmstead and Calvert Vaux. The most prominent natural features that have remained unchanged for millennia are the park's giant boulders, which were deposited during the glacial retreat of the continent's last ice age, 18,000 years ago, and haven't moved since. The ponds and lakes in the park were all created by people diverting the naturally flowing water in the area. Note that the lesson map, *Searching for Streams in Central Park*, indicates that streams, ponds, and wetlands were all naturally occurring 400 years ago in the area that is now Central Park. This area was home to a variety of ecological communities, including, for example, highbush blueberry bog thickets, which in the summer would have been filled with blueberries. The pond indicated on the map was most likely a beaver pond – when beavers built lodges along adjacent streams, the water would have been dammed up and formed a pond. (The numbers running along the top and bottom of the map are measures of longitude; the numbers running along the sides of the map are measures of latitude.)

On this field trip, students will be heading to a place in the park where a stream from 1609 crosses a paved area that is large enough for the students to draw on. This area is at the northern end of the Mall, near the Naumburg Bandshell, between 69th and 70th Streets (see lesson map, *Searching for Streams in Central Park*). Students may enter the park anywhere that is convenient; note that the nearest entrance gates are the Inventor's Gate, at E. 72nd Street and 5th Ave., and the Student's Gate, at E. 67th Street and 5th Ave. The nearest public restrooms can be found inside the Arsenal Building (at E. 64th Street and 5th Ave.), and also along the steps leading from the very north end of the Mall down to the Bethesda Fountain. The nearest subway stops are the 68th Street/Hunter College stop on the 6 line, the Lexington Ave./53rd St. stop on the F line, or the 5th Ave./59th Street stop on the N/R/W lines.

The Streams of Mannahatta, 1609

