

Nature notes

From The Natural Resources Group

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Nature Notes is a publication of field observations from the Natural Resources Group, a division of the Department of Parks and Recreation of the City of New York. NRG's mission is to protect and preserve New York City's natural parklands through active management, restoration, acquisition and outreach using scientifically supported and sustainable approaches.

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DUSKY SALAMANDERS FOUND IN NORTHERN MANHATTAN

Not far from the Harlem River Drive, a small, groundwater fed spring trickles down a steep forest slope. This rocky terrain is where NRG ecologists, led by Dr. Ellen Pehek, recently rediscovered the dusky salamander (*Desmognathus fuscus*). Until then the dusky was thought to be extinct in Manhattan with the last known record from 1944.

These stocky, dark-colored salamanders have a broad face and black eyes with pupils ringed in gold. The average length of adults is between three to four inches. They are adept at jumping, which helps them to quickly escape from predators. Females lay a clutch of eggs and guard them until hatching. Hatchlings sport pairs of thin, branched gills for the short time they live in the water. Mature duskies must keep their skin moist, like all amphibians, and will remain in the vicinity of the stream. They are an important link in the forest food chain. Snails, worms, spiders, and other invertebrates are all part of this salamander's diet. In turn, the dusky may fall prey to snakes, birds, raccoons, and skunks.

According to WCS (Wildlife Conservation Society) Herpetologist Michael Klemens, the species has been nearly eliminated from Westchester County and other nearby suburbs, thus NRG, considers the dusky threatened in New York City. However, northern Manhattan is currently supporting healthy populations of these salamanders. Finding them living in such an a heavily populated urban environment is remarkable.

Salamanders are susceptible to the effects of pollution and chemical fluctuations because of their permeable skin and inability to travel great distances. The greatest threat to dusky salamanders in New York City is habitat loss and degradation. The few remaining natural areas in the city, many within our parks, are refuges for these small creatures. By maintaining parkland we can help salamanders and the other organisms that depend on them.



The recently rediscovered dusky salamander (*Desmognathus fuscus*). Photo by Dr. Ellen Pehek

Continued

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UNCOMMON FERN FESTOONS MANHATTAN TRAIN TRESTLE

While crossing under the Metro North train trestle in East Harlem between 98th and 109th Streets, have you ever stopped to admire the greenery growing on the stone walls? If so, then you've seen bluntlobe cliff fern (*Woodsia obtusa*). A small plant with lacy fronds, this fern is found throughout the eastern United States on open limestone cliffs and other rocky sites. In these habitats it forms dense tufts, growing in water-holding cracks and crevices in



Bluntlobe cliff fern (*Woodsia obtusa*) on the Park Avenue train trestle.
Photo by Marielle Anzelone.

the rock. In New York City, it is not common, but may be found in relatively undisturbed, rocky site in Pelham Bay Park and on sunny cliffs in Highbridge Park. Surprisingly, it has also been found in more urbanized sites, such as Central Park. Here the fern perimeter stone walls and along the interior of the Block House. Bluntlobe cliff fern is found most abundantly on the Metro North railway viaduct, where the tracks run on an elevated, masonry trestle, along Park Avenue in northern Manhattan. Several other ferns are also found here, but *Woodsia* is the most abundant. Although weedier plants also grow on these walls, it is always a delightful surprise to see the lush "fern garden" thriving in the midst of heavy traffic and apartment buildings.

OYSTERS ON THE BRONX RIVER?

Believe it or not, there are small groups of eastern oysters (*Crassostrea virginica*) scattered along the Bronx coastline (in the Bronx River, Pugsley Creek, along the edges of City Island and at Pelham Bay Park). With funding from the National Oceanographic and Atmospheric Administration, NRG has been looking closely at oyster populations at the confluence of the Bronx and East Rivers. For three years, scientists, community partners and students have been visiting this highly disturbed urban shoreline to observe a group of oysters in Soundview Park. This past year, NRG placed 200 bags (600 gallons) of clam shells into the Bronx River as a pilot restoration to evaluate whether more available habitat would bring more oysters. Monitoring the reef this past season, NRG observed some oyster settlement and an additional bonus: many other organisms using the site for habitat, including blue, horseshoe and mud crabs, naked gobies, sea robins, grass shrimp, and a variety of green and red seaweeds. A number of factors make oysters critical components of the City's estuarine environment. For instance, oysters create reefs, as we've observed, which provide habitat for other species to use. Oysters also are filter feeders, circulating and purifying high volumes of water through their bodies each day. By filtering sediment particles and toxins, oysters help to improve water quality. However, it is important to note that oysters accumulate these toxins in their body, making oysters and all other filter feeding shellfish from New York City waters unsafe to consume. NRG will continue monitoring this restoration site to gather more information about the growth and survival of oysters at the mouth of the Bronx River.



Eastern Oysters (*Crassostrea virginica*) surviving in the Bronx River at Soundview Park.
Photo by Janine Harris