fresh perspectives

FreshkillsPark Newsletter — Summer/Fall 2011

City marks ten years of progress since closure of Fresh Kills Landfill

In March, the Department of Sanitation and the Department of Parks & Recreation celebrated 10 years of work greening, reclaiming and preparing for park development at the Freshkills Park site.

The last barge of garbage was delivered to Fresh Kills on March 22, 2001. To honor that day, City officials and special guests traveled to the site by New York Water Taxi, the first passenger vessel to dock along the Fresh Kills waterfront, on March 22, 2011. They then welcomed a barge delivery of young oak and honey locust trees to the site, ushering in a new chapter in the story of Fresh Kills. After a welcome by Director of the Mayor's Office for Long-Term Planning & Sustainability David Bragdon, remarks on the occasion were given by Parks Commissioner Adrian Benepe, Sanitation Commissioner John Doherty, Staten Island Borough President James Molinaro and City Council Member Vincent Ignizio. The trees were then planted on-site where they will grow into a shady grove.

The celebration was hopeful. The past 10 years have been kind to the site, thanks to Sanitation's hard work and oversight. What was once an eyesore and source of smell and stigma is now becoming a diverse and spectacular landscape

CONTINUED ON PAGE 2

In This Issue

Above: Sanitation Commissioner John Doherty addresses the crowd of special guests at a March 22nd celebration to mark the ten year anniversary of the last barge of garbage delivered to the site.

Ten years of transformation and park preparation at Freshkills Park site

FROM PAGE 1

deserving of citywide and even global attention. More and more flora and fauna now call the site home, and as Sanitation's capping and closure efforts continue on the site's East and West Mounds, plant and animal populations continue to grow. The massive undertaking is a global icon in terms of landfill reclamation.

"The team effort at Fresh Kills," said Director Bragdon, "exemplifies PlaNYC: pulling all the agencies together to achieve multiple objectives. This project is another step forward in creating a greener, greater New York City… The future park and its landfill management system demonstrate what New York does best—innovate and set the standard for similar projects around the country and the world."

Much of the park development process thusfar has happened behind the scenes. After the 2006 release of the Draft Master Plan for Freshkills Park, the project team began Environmental Review and several tracks of in-depth design process to tackle a variety of projects throughout the 2,200 acres. In the past two years, the completion of that preparatory work has begun to translate into tangible signs of progress. Schmul Park and Owl Hollow Fields, early projects aimed primarily at serving adjacent communities, are in construction now. The first section of North Park awaits permit approvals before launching into construction. Approximately 950 trees have been planted in the South Park section of the site as part of the MillionTreesNYC initiative. The public tour program has branched into specialized activities such as bird-watching and boating. And last fall's Sneak Peak park preview event drew a crowd of nearly 1,800 visitors.

Parks Commissioner Adrian Benepe expressed his vision for the future of Freshkills Park as having unparalleled vistas and recreational experiences, with lessons to teach about waste and reuse, the capacity to demonstrate new strategies for reclaiming land and

CONTINUED ON NEXT PAGE

PHOTO BY DANIEL AVILA

City officials plant one of the 25 trees delivered to the Freshkills Park site on March 22, 2011. Left to right: Sanitation Deputy Chief Dennis Diggins, Sanitation Chief Michael Mucci, Staten Island Borough Parks Commissioner Adena Long, Director of the Mayor's Office of Long Term Planning and Sustainability David Bragdon, New York City Council Member Debi Rose, Parks Commissioner Adrian Benepe and Freshkills Park Administrator Eloise Hirsh.

Freshkills Park Team

Parks & Recreation Commissioner
Adrian Benepe

S.I. Borough Commissioner
Adena Long

Park Administrator
Eloise Hirsh

Capital Program Manager
Angelyn Chandler

Land Use Review & Outreach Manager
Carrie Grassi

Landscape Architect
Andrew Deer

Arts Program & Grants Manager
Raj Kottamasu

Outreach Coordinator
Doug Elliott

Interns
Jon Fouskaris
Kate Sokol

Mission

As Freshkills Park moves from the planning stages to implementation, we strive to keep community members informed of the progress in bringing this innovative project to reality. Building this park requires many coordinated activities including the planning and design of the park, engineering for roads and other technical aspects of the park design and environmental assessment and regulatory permitting. The purpose of the Fresh Perspectives newsletter is to provide updates about the project's progress as well as information about its history and some of the unique features, resources and complexities of the site.

2001

March 22 – Last barge of garbage delivered to Fresh Kills Landfill
April – East Mound (Section 6/7) landfill gas collection system completed
September 5 – City of New York announces international design competition for Freshkills Park
December 18 – Landscape architecture firm James Corner Field Operations wins design competition

2003

June 5 – Final Closure Plan for all four landfill sections completed
September 29 – Freshkills Park master planning and public outreach process begins

2005

August – Public planning process ends; design team begins Draft Master Plan for Freshkills Park

2006

April 6 – Mayor Bloomberg announces release of Freshkills Park Draft Master Plan
May 24 – Work begins on Freshkills Park Generic Environmental Impact Statement
July – Parks Department begins leading public bus tours of site
October – NYC Comprehensive Solid Waste Management Plan approved
November – Department of Sanitation's Staten Island Transfer Station (SITS) begins operating

2007

January – Construction begins on final cover of East Mound (Section 6/7)
January – Design begins on Schmul Park
April 7 – Trains begin transporting waste from SITS
November – Design begins on first phase of North Park

2008

July – Solid Waste Association of North America Gold Excellence award goes to SITS
November – Construction completed on East Mound (Section 6/7), Phases 1 and 2

2009

March 13 – Final Generic Environmental Impact Statement for Freshkills Park released
March 14 – Work begins on Supplemental Environmental Impact Statement for road construction
October – Design begins on first phase of South Park
October 16 – Supplemental Environmental Impact Statement for road construction released

2010

February – Construction of Yukon Avenue entrance road base begins
May 12 – 950 trees planted in South Park as part of MillionTreesNYC initiative
October 3 – Sneak Peak at Freshkills Park draws 1,800 visitors
October 27 – Schmul Park groundbreaking
November – Construction completed on East Mound (Section 6/7), Phases 3 and 4

2011

March 22 – DSNY/DPR host 10th Anniversary celebration

FROM PREVIOUS PAGE

renewable energy, and a new model for 21st century parks."

The next 10 years promise further progress in both agencies' ambitions for the site. Landfill capping will be completed on not only the East Mound, but also the last and largest of the site's four landfill mounds, West Mound. A road system will be constructed offering access to and through the site. Habitat will be restored and further diversified through research and landscape improvements. Recreational, cultural and educational facilities will be developed and constructed in all five areas of the park: North Park, South Park, East Park, West Park and the Confluence. And the site will distinguish itself citywide by offering a host of programs taking advantage of its distinctive landscapes: boating, biking, horseback riding, trail running, large-scale artworks and performances. This decade will host the site's first major transition into a public amenity.

This year, the Department of Parks & Recreation is celebrating 10 years since landfill closure with a series of programs, tours and events. Please check our website for an upcoming schedule. We hope you will join us this year and into the future.

Freshkills Park facilities to feature green roofs

Largest green roof on Staten Island

Staten Island's St. George Ferry Terminal features a 16,000 sq. ft. green roof thickly planted with butterfly milkweed, (*Asclepias tuberosa*) designed to attract and nourish monarch butterflies during their annual migration to Mexico. The structure also collects and stores rainwater in a cistern below to ensure the survival of roof vegetation even in severe drought conditions.

Landscape and habitat improvements are planned for a wide range of locations at the Freshkills Park site: hillsides, wetlands, lowlands, forests.

Even rooftops.

Two early building projects at the site, an interim Visitor Center and the Owl Hollow Comfort Station, will feature green roofs. The vegetated cover on the structures will place them among the first green roofs constructed on Staten Island.

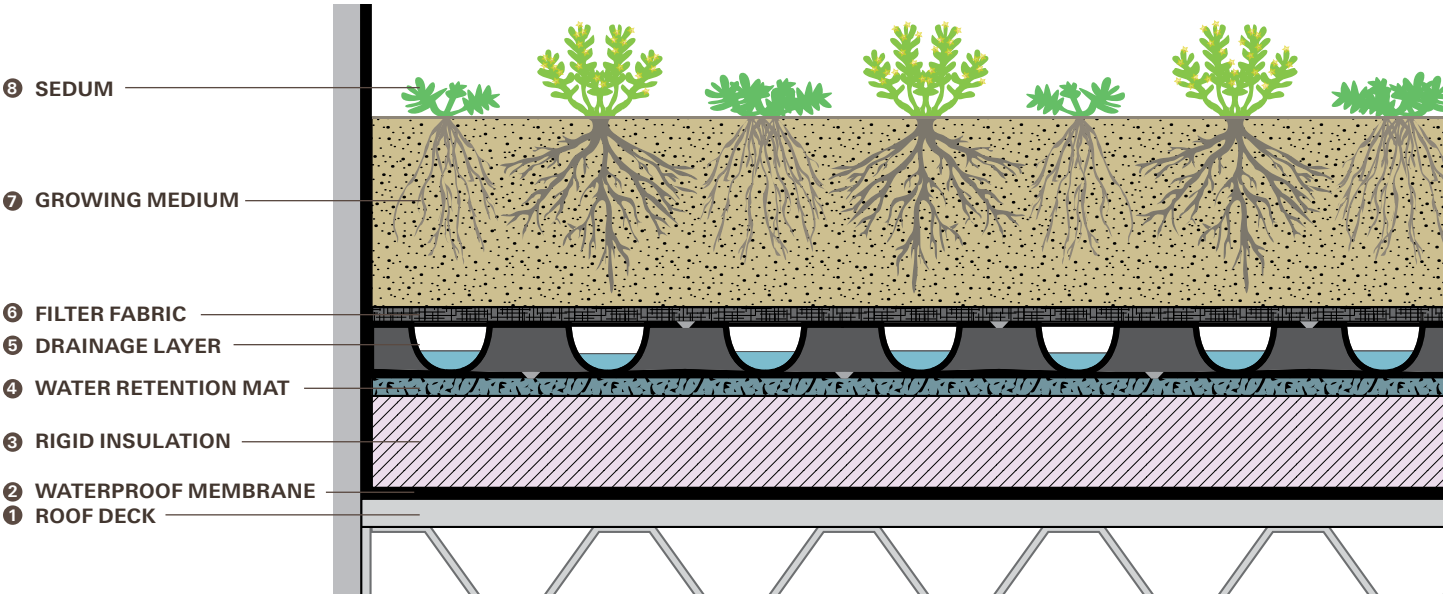
The green roof installations at Freshkills Park are designed to support drought-resistant vegetation atop a lightweight layer of growing medium, adding functionality to roofs that would otherwise serve no ecological function. By using roof structures to support plant life, these green roofs will become patch habitats for foraging birds and pollinating insects.

Green roofs capitalize on the natural capacities of soil and plants to retain storm water, filter air pollutants and sequester carbon. All of these help to mitigate impacts traditionally associated with the construction of facilities. Green roofs greatly extend the longevity of conventional roofs and help to insulate buildings, leading to reductions in heating and cooling costs.

Installation of green roofs has become increasingly popular in New York City over the past several years. Notable examples include the 24 experimental plots atop the Department of Parks & Recreation's Five-Boro Administrative Building on Randall's Island, the U.S. Postal Service's 2.5-acre retrofit roof at its Morgan Processing and

CONTINUED ON NEXT PAGE

COMPONENTS OF A GREEN ROOF



This diagram illustrates an extensive green roof design similar to that which will be built at the Owl Hollow Comfort Station.

On top of the roof deck ❶, a thin liquid is evenly applied to seal up any seams. It hardens into a monolithic waterproof membrane ❷ to ensure that the roof is completely leak-proof. A layer of rigid insulation ❸ is installed immediately above, also serving as a lightweight, moisture-resistant structural element. Next, a water retention mat ❹ made of a non-rotting, sponge-like fiber is laid out to provide a reserve of moisture and nutrients for the plants during periods of drought. This layer also provides physical protection to the insulation and waterproofing layers beneath. On top of that, a drainage layer ❺ is put into place. It serves as a zone of aeration, drainage, and water collection. The drain board also functions as structural support for the growing medium above. Filter fabric ❻ is affixed atop the drain board. It prevents fine particles of substrate from eroding away and acts as a root barrier. The growing medium ❼ is installed next and is generally composed of a lightweight, engineered soil. The final layer consists of drought-resistant plants, usually those of the genus *Sedum* ❽, which are able to grow in the shallow, well-drained substrate. *Sedum* plants are common choices for green roofs since they have succulent leaves that absorb a high capacity of water, are highly tolerant of dry, exposed conditions, and establish into hardy, self-regenerating plant communities.

Top left: A rendering of the interim Freshkills Park Visitor Center, located within the Confluence area.

Bottom left: A rendering of the Owl Hollow Comfort Station.

Above: A lightweight and thinly-layered extensive green roof system installed at the Department of Parks & Recreation's Five-Boro green roof facility will provide a model for the system to be installed atop the Visitor Center.

CONTINUED FROM PREVIOUS PAGE

Distribution Center in Chelsea, for-profit rooftop farms in Long Island City and Greenpoint, and resident-accessible high-rise towers in Battery Park City.

INTENSIVE VS. EXTENSIVE SYSTEMS

The major difference between the two types of green roofs—intensive and extensive—is how much growing medium (or substrate) and volume of plant mass they can support. Intensive green roofs can support a variety of perennials and shrubs, creating a park-like roof landscape, but require substrate layers more than six inches thick and require irrigation. Extensive green roofs have thinner substrate layers supportive of more drought-tolerant plants such as sedum and grasses.

A primary factor in choosing between intensive and extensive green roof designs is the roof's load-bearing capacity—the additional weight that can be supported. The determination must consider the combined weight of 1) growing medium when saturated, 2) plant material at maturity, and 3) any additional components of the system (for an example, see the diagram on page 4). Many older buildings are built solidly enough to sustain extra weight on their roofs, but newer buildings, unless designed to host a green roof, tend to have more limited weight tolerances. Green roofs built on existing structures tend to be of the extensive variety, while new buildings designed with greater load-bearing capacities may opt for the intensive form.

Both green roofs currently planned at Freshkills Park will be extensive. The interim Visitor Center, which will occupy one of the Department of Sanitation's former trailer field offices, is only able to support a shallow growing medium, 2.5 inches thick. The Owl Hollow Comfort Station, which will be newly constructed, is also designed for an extensive system, but will be able to sustain a slightly thicker rooftop substrate layer of five inches in depth. The two roofs, modest but exciting, establish a precedent expected to extend to many future buildings at Freshkills Park.

Water recreation program to begin along creeks

Waterways and state safety standards

Under the New York State Department of Environmental Conservation's State Water Quality Standards Program, specifically New York Codes, Rules and Regulations Title 6 (6 NYCRR) Parts 701, 703 and 890, Richmond Creek and Main Creek are classified as Class SC or B: saline or fresh surface waters suitable for fish, shellfish, and wildlife propagation and survival as well as primary contact (swimming) and secondary contact (boating).

The Freshkills Park site is home to spectacular creeks and wetlands that support a rich diversity of plants and wildlife. It comes as little surprise that the Department of Parks & Recreation has received a growing number of inquiries from park tour visitors interested in navigating the site's waterways. Now reacquainting themselves with a site closed to public access for decades, visitors are eager to experience Freshkills Park through its tidal arteries and to try their hand at boating in a complex urban environment that combines natural and engineered features.

A series of pilot boating excursions held over the last year and a half have confirmed that paddling the site's waterways is a terrific way to enjoy and engage with the unique geography of Freshkills Park. Early outings included a staff canoe trip and a kayak tour for local boathouse representatives. Small groups of canoes and kayaks were guided out into Richmond Creek and Main Creek, which originates in the William T. Davis Wildlife Refuge. Boaters took in awesome views of the site and its surrounding landscape.

This year, the Department of Parks & Recreation will expand upon those pilot excursions to offer a limited number of free boating tours to the public. Parks' Urban Park Rangers will provide a brief site history and safety instruction to each tour group as it paddles by the site's wetlands as well as remnants of Staten Island's shipping, docking and sanitation infrastructure.

PART OF A CITYWIDE TREND

Water recreation at Freshkills Park adds navigable area to a growing network of urban boating ventures in the city. Community boating programs are currently operating through Kayak Staten Island, the Gowanus Dredgers, the Long Island City Community Boathouse, and the Downtown Boathouse, all of which offer free group excursions through New York's dynamic waterways during summer months. Elsewhere, active programs in the Hudson River, Bronx River and Jamaica Bay are attracting a new breed of urban explorer. "The whole idea is to get people connected so that they then take the next step and care about the waterfront parks," said Karen Overton, the Catalyst Coordinator for Partnerships for Parks. "And kayaking is the perfect way to do it."

CONTINUED ON PAGE 8

Wildlife Spotlight: A thriving meadow species at the lower end of the food chain

PHOTO COURTESY OF JEN RICHMOND

Carolina grasshopper
Dissosteira carolina

Range: Native to North America.

Size: Females are larger than males. Males reach up to 1.5 inches and females up to 2 inches in length, with legs folded in stationary position. Wingspans reach up to 3 inches in males and 4 inches in females.

Preferred habitat: Carolina grasshoppers are found in dry fields and meadows, as well as areas of human disturbance, such as roadsides or vacant, weedy plots.

Life span: Egg to adult, approximately one year.

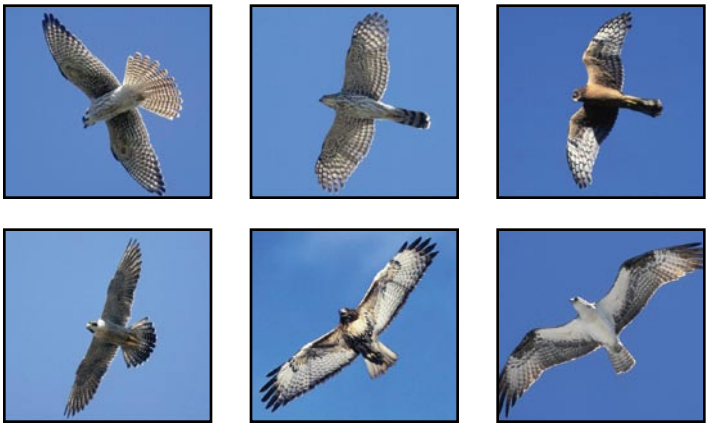
Carolina grasshoppers are among the largest insect species found at the Freshkills Park site. They belong to the insect order *Orthoptera*, which also includes katydids and crickets. They are usually brown, tan or gray in color, with a speckled outer pair of forewings and a fan-like inner pair of black hindwings with white tips. They are commonly found on-site during summer months.

Meadows with patches of bare soil are ideal habitat for Carolina grasshoppers, allowing them to disappear into their surroundings when not feeding on grasses and weeds. Females also utilize the bare soil as nesting habitat for their egg clutches, which are deposited 1.5 inches below ground surface in late summer. Eggs remain dormant through autumn and winter, and nymphs generally emerge in late spring. Nymphs lack functional wings but are able to jump minutes after being born. Immature grasshoppers undergo a series of five molts over the course of one to two months to complete their metamorphosis. As adults, the species only lives about two months.

Carolina grasshoppers can jump significant distances using powerful hindleg muscles, and adults are capable of flying between one and five feet vertically and anywhere between two and 70 feet horizontally. To evade predators, they often take 90-degree turns in mid-air before landing.

This species serves as common prey for a variety of small mammals, birds, reptiles, amphibians and other arthropods, playing an important role in the food chain.

Birds of prey at Freshkills Park: How many can you identify in flight?



Top row (left to right): American kestrel: smallest of the falcons, with a fanned tail and pale wings. Cooper's hawk: tail is long and straight with thick black and white bands. Northern harrier (female): dark brown head, body and tail with black and white wings. **Bottom row (left to right):** Peregrine falcon: black facial "mask" and long, tapered wings built for speed and agility. Red-tailed hawk: soars on termal updrafts; reddish-brown terminal band on tail. Osprey: fish-eating bird with huge wingspan, dark markings on wrist of underwings and finger-like feathers at the wingtips. (Photos by Brian K. Wheeler)

Gradually getting acquainted with the creeks at Freshkills Park site

CONTINUED FROM PAGE 6

FURTHER DEVELOPMENT

As the City continues to develop Freshkills Park, put-ins and docks will be located throughout the site to provide water access. In addition, the Confluence, at the center of the site, will host several prominent access points where ecological, educational and recreational water-related programs will take place. As detailed in the master plan for the park, a floating dock at Creek Landing will allow for canoe and kayak access, and facilities at The Point will adaptively reuse existing infrastructure to host ferry service and floating gardens.

Water has always borne great significance to operations at the Freshkills Park site and to the larger community on Staten Island. With expanded programming, plans for dedicated access points and community ardor for exploring local history and ecology through urban boating, the City is working to restore a relationship between the site, its waterways and the people who visit it.

For a full schedule of upcoming tours and events, please visit the Freshkills Park home page and click on the Tours and Events tab.

Top: Citywide boating advocates prepare to launch into Fresh Kills Creek during an outing last year.

Above: (left) A staff canoe tour into the William T. Davis Wildlife Refuge, just north of the Freshkills Park site; (right) Visitors enjoy paddling in the creek during October's Sneak Peak park preview event.

FreshkillsPark

10 YEARS greening, transforming, reclaiming

City of New York
Parks & Recreation
Michael R. Bloomberg, Mayor
Adrian Benepe, Commissioner

Freshkills Park office
51 Chambers Street, Room 100
New York, NY 10007
www.nyc.gov/parks/freshkillspark
www.freshkillspark.wordpress.com

Project Partners
Department of Sanitation
www.nyc.gov/dsny

Department of City Planning
www.nyc.gov/dcp

Related City Initiatives
PlaNYC 2030
http://www.nyc.gov/planyc2030/

MillionTreesNYC
http://www.milliontreesnyc.org

This newsletter was prepared for the New York Department of State with funds provided under Title 11 of the Environmental Protection Fund.