



*NJSEA Administration Building*



*William D. McDowell Observatory*



*Center for Environmental and Scientific Education*



*Meadowlands Environment Center*



*River Barge Park*



*Meadowlands Arena*



*American Dream*



*MetLife Stadium*



*Meadowlands Racetrack*

The New Jersey Sports and Exposition Authority (NJSEA) holds the land lease for and provides for the ongoing operation of the internationally renowned MetLife Sports Complex. The agency is also the regional planning and zoning authority for the Meadowlands District, which consists of parts of 14 towns in Bergen and Hudson counties.

Over the past five decades hundreds of millions of people from around the world have experienced world-class sporting matches, concerts and other events at the Sports Complex, which includes MetLife Stadium, the Meadowlands Racetrack, the Meadowlands Arena and the American Dream entertainment and retail complex.

In April 2019, MetLife Stadium hosted WrestleMania35, which broke the record for the venue's highest-grossing entertainment event ever at \$16.9 million. The event drew fans from all 50 states as well as foreign countries and filled Meadowlands area hotels to capacity. Other noteworthy events at the Sports Complex in 2019 included two Rolling Stones concerts at MetLife Stadium and the Meadowlands Racetrack hosting the Hambletonian, harness racing's premiere event.

The Meadowlands Arena remained a prime spot for television production. In 2019, NBC Universal filmed its new series, "Lincoln Rhyme: Hunt for the Bone Collector," at the site and employed 1,250 workers for the production.

NJSEA operations at the Sports Complex include engineering, rail station operations and maintenance, and fire and EMS services.

The American Dream entertainment and retail destination opened the Nickelodeon Universe theme park, the Big Snow skiing and snowboarding park and The Rink, a National Hockey League regulation-sized skating rink. Upon completion American Dream is estimated to create 16,000 new, permanent jobs and attract 40 million visitors annually from around the world.

The Authority also owns the Wildwood Convention Center and holds the land lease for the Monmouth Park Racetrack in Oceanport, home of the Haskell Invitational; the Favorites off-track wagering facility in Woodbridge; and the Atlantic Health Jets Training Center in Florham Park.

As a regional planning and zoning agency, the NJSEA promotes economic growth and environmental preservation in the Meadowlands District. Through appropriate, smart planning, the agency over the past five decades has attracted billions of dollars in economic development to the District, establishing the area as a major economic engine in northern New Jersey. Today the Meadowlands is a hub for warehouse and distribution centers, data centers and office space due to its proximity to New York City, mass transit, and major roadways, air and seaports.

At the same time, the agency has cleaned up and closed more than 50 orphaned landfills, protected more than 3,500 acres of environmentally sensitive wetlands, and contributed to the significant improvement of the Hackensack River and the region's overall tremendous environmental renaissance. The Meadowlands, once defined by blight and pollution, today is teeming with wildlife and natural beauty and is a nationally recognized birding hotspot.

The NJSEA's DeKorte Park headquarters in Lyndhurst houses its Land Use Management Department, Solid Waste and Natural

Resources Department, Administrative Department and executive offices. It is also home to the Meadowlands Environmental Research Institute (MERI), which is operated in partnership with Rutgers University.

The agency's Meadowlands Environment Center provides environmental education programming to students in Grades K-12 through an agreement with Ramapo College of New Jersey. The Lyndhurst campus also houses the William D. McDowell Observatory, open to the public for stargazing every Wednesday through collaboration, with Bergen Community College.

The Meadowlands District municipalities in Bergen County are Carlstadt, East Rutherford, Little Ferry, Lyndhurst, Moonachie, North Arlington, Ridgefield, Rutherford, South Hackensack and Teterboro. Hudson County municipalities in the District are Jersey City, Kearny, North Bergen and Secaucus. 



JOHN BALLANTYNE  
*Chairman*

I am pleased to report that 2019 was an especially successful and important year for the New Jersey Sports and Exposition Authority. Most notably, the NJSEA in 2019 introduced the Draft Hackensack Meadowlands Master Plan Update 2020, the NJSEA's primary planning document. The Master Plan sets the pathway for a flourishing economic and environmental future in the Meadowlands District.

The year 2020 marks the 50th anniversary of the original Master Plan for the Hackensack Meadowlands District. This 2020 Master Plan Update builds upon the significant achievements of this agency and its staff over the past half century. It outlines the agency's vision for economic growth and environmental preservation and lays out the necessary steps to achieve those goals.

Significantly, the 2020 Master Plan proposes new policy objectives and recommendations, and includes a system of future comprehensive planning studies that will continue to promote and best inform the agency's environmental, land use, and economic development initiatives.

The 2020 Master Plan reaffirms the NJSEA's commitment to creating a more prosperous, green, and resilient Meadowlands region.

The past 12 months have been a boon for the region's economy. Preliminary work began in 2019 on Kingsland Meadowlands, a 3-million-square-foot, state-of-the-art industrial park in Lyndhurst. The project is a prime example of the tremendous, increasing demand in the District for warehouses and distribution centers due to its proximity to major airports and roadways and easy access to mass transportation.

Other examples of new construction in 2019 include the completion of an 80,600-square-foot manufacturing warehouse in Carlstadt and the beginning of site work on a 90,000-square-foot warehouse in Lyndhurst.

The NJSEA takes great pride in continuously meeting and building upon its mission of protecting and

improving the Meadowlands District's crucial environment and eco-system while providing for fiscal growth in the area. The past year showcased the agency's dedication to the betterment of the environment through the work of the Natural Resources Department and the Meadowlands Environmental Research Institute (MERI).

Their valuable research included studies and reports on how to preserve the District's vital wetlands and how to prepare the region for sea level rise.

The NJSEA has much to be excited about in 2020. Through the vision of its Board of Commissioners and the ingenuity and talent of its staff, the Authority is well-situated to build upon its past successes and continue to position the Meadowlands District as a thriving economic engine and vital environmental resource for decades to come. 🌿



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VINCENT PRIETO  
*President and CEO*

## MESSAGE FROM THE PRESIDENT AND CEO



VINCENT PRIETO  
President & CEO

On behalf of the New Jersey Sports and Exposition Authority, I am proud to present the NJSEA 2019 Annual Report. The past 12 months have been an exciting period at our multi-faceted agency, which operates out of both the MetLife Sports Complex in East Rutherford and DeKorte Park in Lyndhurst.

The NJSEA in 2019 made great strides in supporting its dual mission of fostering economic growth and environmental conservation in this unique region, where one of the country's busiest economic corridors co-exists with an expanse of vital wetlands, exquisite parks and recreational opportunities.

The MetLife Sports Complex continues to host the biggest events in sports and entertainment and has also become a premiere location for television production. In April, WrestleMania 35 was held at MetLife Stadium and shattered Stadium revenue records by bringing in \$16.9 million. At the NJSEA's Meadowlands Arena, NBC Universal filmed its new series "Lincoln Rhyme: Hunt for the Bone Collector."

The use of the Arena for film production is in keeping with Governor Phil Murphy's mission to make New Jersey a premier national location for television and movie studios and productions that bring millions of dollars in jobs and goods to the state as well as increased business to local merchants.

The American Dream retail and entertainment project opened its first three attractions: the Nickelodeon Universe amusement park. The Rink, a full-sized skating rink, and Big Snow, the country's first indoor, real-snow, year-round ski and snow resort.

The NJSEA in 2019 continued to improve the environment and offered a variety of public programs celebrating the region's wildlife and natural resources. More than two thousand visitors participated in pontoon boat rides of the Hackensack River and special events including the 10th Annual Butterfly Day and the Meadowlands Festival of Birding, both co-sponsored by the Bergen County Audubon Society.

I would like to thank the NJSEA Board of Commissioners for its tremendous leadership and our staff for its unparalleled hard work. It is directly through their efforts that the Meadowlands District has become a premier region in which business owners prosper, the environment thrives and residents enjoy a wonderful quality of life. 



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NJSEA Complex at DeKorte Park in Lyndhurst

**ENGINEERING**

The Engineering Department oversees the NJSEA operations at the MetLife Sports Complex and handles all facilities and site engineering as well as maintenance. It is responsible for regulatory compliance and environmental obligations and issues at the Complex.

**SITE OPERATIONS**

This Department is responsible for operating the Sports Complex as required under the various lease agreements between the NJSEA and Complex tenants. Site Operations staff performs snow removal and landscaping in addition to routine maintenance and cleaning. This group works on the NJSEA portion of the property as well as loading road salt for the entire site. A team of operating engineers maintains the NJSEA and Meadowlands Racetrack vehicle fleets and heavy equipment.

NJSEA electricians are responsible for covering the Complex's 26Kv service and distribution to all seven site facilities. Electricians also handle all MetLife Stadium events and are utilized by Meadowlands Racing & Entertainment, the New York Giants Quest Diagnostics Training Center, and American Dream on an as needed basis. NJSEA laborers maintain all agency grounds, including the New Jersey Transit Rail Station, and work all events.

**RAIL STATION OPERATIONS AND MAINTENANCE**

Under the NJSEA's agreement with New Jersey Transit, the Authority maintains the Meadowlands Rail Station and platform at the Sports Complex and provides power to the station and the rail line.

**MEADOWLANDS ARENA**

Meadowlands Arena tenants include the New Jersey State Police and the New Jersey Department of Community Affairs. The Arena is also home to the NJSEA Medical Services Staff, which provides EMS assistance to Sports Complex leaseholders on a daily basis as well as to patrons at all Complex events. Additional tenants include American Dream, which houses its executive offices at the site, and NBCUniversal, which utilizes the venue for television production.



Entrance to Metlife Stadium



Emergency vehicles on site for all events.

**FORMER RACETRACK GRANDSTAND**

The former racetrack grandstand houses the IT operations for the NJSEA and Meadowlands Racing & Entertainment as well as communications for the MetLife Sports Complex and the Meadowlands Rail Station. Over the last two years the former grandstand has also been the site of many NBC and ABC television productions.

**FIRE DEPARTMENT**

The NJSEA's Meadowlands Fire Department covers the entire MetLife Sports Complex 24 hours a day, 7 days a week.

**MAINTENANCE BUILDING**

The Sports Complex maintenance building is located in the racetrack backstretch. Currently, the building is shared by the NJSEA, MetLife Stadium, and Meadowlands Racing & Entertainment maintenance and operations groups. The three entities maintain the MetLife Sports Complex buildings, fleet vehicles and equipment.

**STORM WATER PUMP STATION AND LAGOON SYSTEM**

This critical facility handles the millions of gallons of storm water for the site by storing and transporting the water into nearby Berry's Creek.



Aerial view of the Meadowlands framed by the NYC skyline

### DEVELOPMENT APPLICATION REVIEW

The Land Use Management (LUM) Division's Site Plan Review group is responsible for establishing and enforcing the zoning and subdivision regulations of the District. All development plans and property improvements, including redevelopment projects, are reviewed to ensure orderly development in accordance with NJSEA regulations, which effectuate the Hackensack Meadowlands District Master Plan. The Site Plan Review group reviews land use applications and forwards conforming applications to the Chief Engineer for approval. Public hearings are held for applications involving variances or special exception requests. LUM's Plan Review group is responsible for reviewing all proposed construction plans in accordance with the New Jersey Uniform Construction Code.



### MASTER PLAN UPDATE

In August, the NJSEA introduced its Draft Hackensack Meadowlands District Master Plan Update 2020.

The Master Plan highlights District accomplishments and presents a vision for future economic development and environmental objectives.

The Master Plan Update 2020 proposes new policy objectives and recommendations for future planning studies that will continue to promote the environmental preservation, land use, and economic development objectives of the District.

The Plan was produced by the Land Use Management (LUM) Division staff, which logged hundreds of hours in thoroughly and comprehensively evaluating existing land use conditions in the District and significant changes that have occurred since 2004.

The Master Plan Update includes a new section: "Sustainable Meadowlands: A Guide to Resiliency." The concept of resiliency has come to the forefront in the wake of Superstorm Sandy in 2012.

In the Master Plan, the NJSEA outlines its ongoing resiliency and stewardship efforts that have helped to mitigate the risk from weather-related events, including enforcement of regulations, floodplain management initiatives, wetlands preservation, sustainable initiatives and water level monitoring. The agency has a long history of adapting to changing circumstances and will continue to do so, as climate change and sea level rise threaten both the natural and built environment of the District.

The Master Plan also offers a review of potential strategies to address sea level rise that may be appropriate for future NJSEA implementation. These include, among others, overlay zones to reflect Special Flood Hazard Area (SFHA) properties; increased setbacks or buffers to enhance protection of vulnerable properties; and restrictions on rebuilding after flood events. 



American Dream entertainment and retail destination in East Rutherford

The Hackensack Meadowlands District Master Plan Update 2020 highlights many positive signs of economic growth in the District that indicate a robust business environment and foretell a healthy future.

The Division reviews 500 to 600 applications every year. In 2019, 549 applications were received. These include applications for new and existing businesses that establish themselves in or move to the District, as well as current Meadowlands companies who propose to expand and invest in capital improvements.

**HOTEL DEVELOPMENT**

Heightened interest in hotel development and redevelopment in the District has been evident in the past few years, in part due to the American Dream entertainment and retail destination in East Rutherford, which commenced its phased opening in November 2019.

Hotel development continues along the Paterson Plank Road corridor in Carlstadt, with a 149-room Marriott Springhill Suites under construction and a 164-room Hilton Garden Inn under review. There has also been a continued expansion of hotel development in the Harmon Meadow complex in Secaucus. This includes the approval of the 175-room Aloft boutique hotel, which is nearing completion, as well as a proposed 168-room Hampton Inn.

**KINGSLAND REDEVELOPMENT AREA**

Kingsland Development Urban Renewal, LLC began site preparation work during the summer of 2019 on a 3 million-square-foot, state-of-the-art industrial park in Lyndhurst. The industrial park, to be called Kingsland Meadowlands, is part of a plan to redevelop 718 acres within the Kingsland Redevelopment Area in Lyndhurst, Rutherford and North Arlington, which were acquired by Kingsland Development Urban Renewal, LLC. The property includes several closed landfills: Avon, Kingsland, Lyndhurst, Rutherford East, Rutherford West and the Northern Node, a former brownfield.

The Kingsland Redevelopment Plan allows for uses including, but not limited to, light industry, warehouse and distribution, commercial, data centers, office, research and development, and renewable energy sources. An application for the first phase of construction, which includes two warehouse buildings in Lyndhurst, totaling approximately 1,275,000 square feet of floor area, is currently under review.

**KOPPERS COKE PENINSULA REDEVELOPMENT AREA**

The Koppers Coke Peninsula Redevelopment Plan was adopted in 2013 and allows for industrial/storage/trucking uses, transport support services, neighborhood services, public/quasi-public uses, and water-dependent uses, within a 367-acre area in the Town of Kearny.

An application for the construction of three warehouse buildings, totaling approximately 1,876,638 square feet of floor area, is currently under review.



Warehouse/distribution center on County Road in Secaucus



Bolero Snort brewery in Carlstadt



80,600 square-foot warehouse in Carlstadt

**ADDITIONAL ECONOMIC DEVELOPMENT HIGHLIGHTS FOR 2019**

- On County Road in Secaucus, a project encompassing two warehouse/distribution buildings totaling 203,600 square feet of ground floor area has been completed.
- UPS received approval to expand their package distribution operation within their 170,000-square-foot, newly-renovated facility on Valley Brook Avenue in Lyndhurst to allow up to 150 package cars to be loaded within the building. An additional employee parking area was added.
- Bolero Snort, a craft brewery to be located in Carlstadt, is nearing completion. The application is for a 14,000-square-foot building including light industrial space (brewery); warehouse space; office space; and restaurant space (tasting room).
- An application for a 92,795-square-foot warehouse (Phase 1) to be occupied by a party rental business and a 55,845-square-foot warehouse (Phase 2) on Paterson Plank Road in East Rutherford, has received conditional zoning approval. Construction is expected to begin in 2020.
- 320 Paterson Plank Road – An 80,600-squarefoot warehouse building proposed to be occupied by a manufacturing facility has been completed on Paterson Plank Road in Carlstadt.
- Clay Avenue in Lyndhurst – A 117,000-square-foot vacant office building has been demolished and will be replaced with a 90,000-square-foot warehouse. Demolition and site preparation began in 2019.

## REDEVELOPMENT

The Authority's NJ-licensed professional staff prepares in-need of redevelopment studies, holds public hearings, and prepares redevelopment plans and amendments in accordance with N.J.A.C. 19:3-5.1 et seq. Staff recommendations are presented by resolution to the Board of Commissioners for their action. In-need of redevelopment studies are initiated by NJSEA staff or by petition from constituent municipalities or the public. The redevelopment process has proven beneficial for District municipalities in which the redevelopment areas are located, as well as for the overall region. As brownfields and areas of contamination and dilapidation are rehabilitated through the redevelopment process, the region reaps the benefit of cleaner, aesthetically-enhanced sites, as well as the economic benefit of increasing the value and usefulness of underutilized properties.



*Transit Village, Secaucus*

The NJSEA works closely with its constituent municipalities to identify sites in need of redevelopment and prepare redevelopment plans in a public forum, with input from government entities and the public at-large. The most recent area in the District designated to be in-need of redevelopment is the Van Keuren Avenue Redevelopment Area, a 117-acre area located in Jersey City at the site of the former PSE&G Hudson Generating Station. The redeveloper's petition proposes a number of uses, including but not limited to industrial, manufacturing, warehousing, distribution, e-commerce, truck terminal, port, intermodal and trucking-related uses. The preparation of the redevelopment plan is currently in progress.



*Vincent Place, Teterboro*

### NJSEA REDEVELOPMENT AREAS

- 16th Street Redevelopment Area (*North Bergen*)
- Belleville Turnpike Redevelopment Area (*Kearny*)
- Hartz Carpet Center Redevelopment Area (*Secaucus*)
- Highland Cross Redevelopment Area (*Rutherford*)
- Van Keuren Avenue Redevelopment Area (*Jersey City*)
- Kearny Area Redevelopment Area (*Kearny*)
- Kingsland Redevelopment Area (*Lyndhurst, Rutherford, North Arlington, Kearny*)
- Koppers Coke Peninsula Redevelopment Area (*Kearny*)
- Lyndhurst Block 228, Lot 3 (*Lyndhurst*)
- Paterson Plank Road Redevelopment Area (*Carlstadt, East Rutherford*)
- Route 3 East Redevelopment Area (*East Rutherford*)
- Secaucus Transit Village Redevelopment Area (*Secaucus*)
- Schmitt Realty Redevelopment Area (*Secaucus*)
- Teterboro/Industrial Avenue Redevelopment Area (*Teterboro*)
- Vincent Place Redevelopment Area (*Teterboro*)



*Koppers Coke, Kearny*

## TRANSPORTATION PLANNING



*MASSTR Operations Center*

The Hackensack Meadowlands Transportation Planning District Act of 2005 and 2015 (TPD Act) established a Transportation Planning District within the Meadowlands District. The TPD Act requires the creation of a comprehensive District-wide Transportation Plan that designates transportation projects and associated funding needed to sustain future economic growth. The TPD empowers the NJSEA to assess fees on future District development based upon a technical analysis of its projected impact upon the transportation system.

### MEADOWLANDS ADAPTIVE SIGNAL SYSTEM FOR TRAFFIC REDUCTION (MASSTR)

The NJSEA's award-winning MASSTR project is an excellent example of a District-wide transportation initiative funded by the Transportation Planning District Fund. MASSTR upgraded 124 signalized intersections throughout the region through an intricate network of technology to continuously adjust traffic signal timings based upon the changing flows of traffic in real-time.

MASSTR uses traffic signal controllers, detection devices, radio transmitters, antennas, and a mix of wireless and fiber-optic communication to keep traffic flowing smoothly. By changing traffic signals from operating on fixed timings to a real-time system, MASSTR has brought a tremendous improvement to the quality of life of those who traverse Meadowlands roadways. It is the first adaptive signal system of its kind in New Jersey and the largest system to be implemented at one time in the country.

The expansion of the MASSTR project continued in 2019. New adaptive signals were installed in Secaucus at the intersection of Paul Amico Way and Castle Road, and construction is underway at the redesigned intersection of Seaview Drive and County Avenue. Work is currently in progress on the integration of four new signalized intersections located in Carlstadt and North Bergen.

The Transportation Group released a Request for Proposals to update the 2007 Meadowlands District Transportation Plan. A consultant team is expected to be selected in the first quarter of 2020.



*MASSTR camera captures live view of traffic*

## RENEWABLE ENERGY

The NJSEA has led by example in the use of renewable energy and other energy efficiency measures, such as green building, that improve and protect the environment by reducing reliance on fossil fuels; save energy costs; create jobs; and put otherwise fallow land to productive use.

The NJSEA promotes the use of renewable energy and other energy efficiency measures by offering incentives to companies and developers whose projects include aspects of sustainable building practices, such as solar power and energy-efficient heating and lighting systems. Benefits include reduced fees for zoning certificate and plan review applications as well as priority reviews.

To date, the NJSEA has approved more than 50,000 kilowatts of solar installation in the District, with 42,250 having been installed through June 2019, more than doubling the goal of the NJSEA's 2008 Energy Master Plan.



*Three megawatt solar farm constructed on NJSEA 1A Landfill in Kearny*

### NJSEA SOLAR AND RENEWABLE MILESTONES

- The agency sponsored the creation of the first solar farm constructed on a State-owned landfill. The NJSEA 1A Landfill in Kearny is home to a 3-megawatt installation that includes 12,506 photovoltaic panels mounted on 13 acres atop the closed 35-acre site. The solar farm, visible from the New Jersey Turnpike, is owned and operated by PSE&G under a 20-year lease agreement with the NJSEA that expires in 2031.
- The NJSEA Center for Environmental and Scientific Education (Science Center) in DeKorte Park was the first public building in New Jersey to achieve Leadership in Energy and Environmental Design (LEED) Platinum certification - the highest rating, from the U.S. Green Building Council.
- The Science Center's sustainable features include 165 rooftop solar panels that generate approximately 40 percent of the building's electricity needs, solar ceiling tubes that maximize the use of natural daylight, recycled building materials, and energy-efficient heating and lighting systems.
- A 120-kilowatt solar carport canopy covers part of the NJSEA's parking lot. The 504 solar panels provide about 20 percent of the electricity needs of the administration building.
- Through its Municipal Solar Assistance Program the agency coordinated the formation of a solar power purchasing cooperative between the Borough of Little Ferry and the Town of Secaucus. The agency's work on behalf of the municipalities helped to defray solar energy development costs that would otherwise have fallen to taxpayers. ↻



*Center for Environmental and Scientific Education, Lyndhurst*



*NJSEA carport canopy, Lyndhurst*

## SOLID WASTE



The NJSEA 1A Landfill in Kearny with solar farm.

The Solid Waste and Natural Resources Department oversees all issues concerning landfill and solid waste management pursuant to the NJSEA enabling legislation. The Department is also responsible for floodplain maintenance and flood control projects. The Natural Resources Management group supports improvements to the Meadowlands' unique urban ecosystem through its wetlands enhancement work, and surveys and studies on area wildlife and marshes.

### SOLID WASTE

The NJSEA in 2019 began negotiations that will lead to the closure and capping of the Keegan Landfill in Kearny, which ceased operations in the spring. The Authority continued to manage closed Meadowlands District landfills. They are the 1E Landfill in Kearny and North Arlington; the 1A Landfill in Kearny; Rutherford East and Rutherford West in Rutherford; and the Erie, Lyndhurst and Kingsland Landfills in Lyndhurst.

As part of its work in maintaining the former landfills, the agency collects and treats more than 500,000 gallons of leachate daily. Leachate is the liquid created by rainfall mixing with decomposing garbage in landfills. The Authority pumps the leachate to a regional sewage facility, where it is treated. The NJSEA has intergovernmental agreements with State agencies and counties for waste disposal and leachate treatment. Before the agency began remediating the landfills, leachate flowed into and contributed to the degradation of the Hackensack River.

Controls are also in place on the landfills to prevent the emission of hazardous greenhouse gases into the atmosphere, primarily methane. Under the methane recovery process, landfill gas is extracted under a vacuum from wells located at the various landfills and piped to processing plants.

### SOLID WASTE TRANSFER STATION

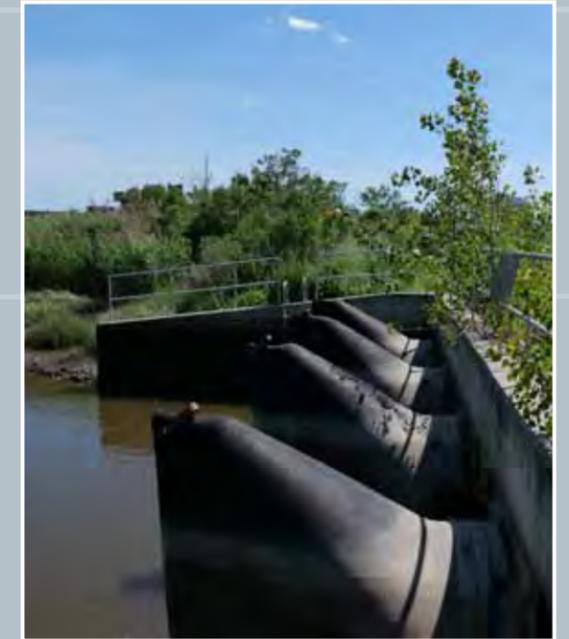
The agency leases a trash transfer facility in North Arlington to a private operator. The transfer station, commonly known as The Baler, is used to move municipal solid wastes out-of-state. Trucks pick up waste and bring it to trains that transport the material. This reduces the amount of trucks on the road and accompanying greenhouse gas emissions.

In addition, the NJSEA leases a vegetative waste transfer facility at its closed 1E Landfill. County, municipal and commercial entities use the site. They deposit leaves, grass and brush that are transferred to and composted at a separate location. This transfer site provides a local destination so that this material can be processed into mulch and soil, keeping it out of landfills. ♻️

## FLOODPLAIN MANAGEMENT



East Rutherford tide gates



In 2005, the former New Jersey Meadowlands Commission prepared the Hackensack Meadowlands Floodplain Management Plan. This plan, which is currently being updated for 2021, established a baseline that remains relevant today by assessing and identifying flood hazards in the Meadowlands District. This foundation evolved into multi-step, coordinated initiatives that have been undertaken by the agency since 2005 to address flooding in the District.

All development applications submitted to the NJSEA are reviewed for conformance with the Authority's District Floodplain Management regulations. This approach has been effective, as evidenced by the low number of repetitive losses due to flooding in the District. Prior to 2012, there were fewer than 10 repetitive loss properties. After Superstorm Sandy in October 2012, the number of repetitive loss properties increased; however, no buildings constructed since the agency's participation in FEMA's Community Rating System (CRS) in 1992 were flooded by the storm.

As part of its goal to mitigate instances of flooding in the District, the NJSEA actively collects, logs, and assesses flooding complaints on individual properties and inspects properties for flood impacts following severe storms. In addition, Authority engineers are available to meet with property owners for on-site inspections and to discuss site-specific stormwater drainage options.

### FLOOD INSURANCE DISCOUNTS



Since 1992 the NJSEA has participated in the Federal Emergency Management Agency (FEMA) National Flood Insurance Program's voluntary Community Rating System (CRS) program. The Authority's participation enables property owners, businesses and tenants located in Special

Flood Hazard Areas within the Meadowlands District to be eligible for 15 percent discounts on National Flood Insurance Program policies issued through FEMA. The discounts are applicable when property owners purchase or renew their policies.

The NJSEA must undertake certain activities that reach certain benchmarks in order to meet or exceed the point system established as part of the CRS. The Authority has been recognized by FEMA for its actions in areas including flood data maintenance, open space preservation, stormwater management standards and drainage system maintenance. As part of the CRS program, NJSEA regulations require flood proof development through the elevation of new construction and substantial improvements above the Base Flood Elevation established by FEMA Flood Insurance Rate Maps.

As part of its participation in the CRS, the NJSEA conducts annual inspections of stormwater infrastructure in the District and regularly evaluates the functionality of all tide gates and pump stations. The NJSEA also coordinates with municipalities and counties for removal of stream debris and tide gate repairs, helping to mitigate the damaging effects of storms. ♻️



Bird banding

Improvements to the Meadowlands District's unique urban ecosystem are supported by the work of the Natural Resources Management Department. The Department's surveys and studies on the region's flora, fauna, and critical wetlands help guide enhancement and protection of the environment. These efforts include researching the behavior of the District's avian and terrapin populations, and monitoring and managing invasive plant species such as the common reed *Phragmites*. Department staff also represents the Authority at interagency meetings on natural resources that address planning and regulatory issues.

**HIGHLIGHTS OF THE DEPARTMENT'S WORK IN 2019**

- Natural Resources staff updated the Meadowlands District 2019 – 2023 Wetland Program Plan (WPP), which was approved by the US Environmental Protection Agency. The goal of the WPP is to preserve, protect, monitor and restore wetlands and other natural habitat within the Meadowlands District. The strategy for reaching this goal rests on five main initiatives:
  - Preserving existing wetland and other natural open space habitat owned and managed by the NJSEA within the District.
  - Monitoring and assessing the wetland and other natural habitats of the Meadowlands to better understand the complex urban ecosystem, and prepare for future changing conditions.
  - Restoring and protecting degraded wetland and other natural habitats within the District.
  - Acquiring additional wetland and other natural habitats owned by others within the District for preservation, restoration and protection purposes,
  - Working in coordination with other land owners, land managers and non-profit organizations that work with or own land in the Meadowlands to assist them with preserving, restoring and protecting the wetlands and other natural habitats located within the District.

- The Department monitored and assessed habitat communities on NJSEA-owned properties using drone technology and field visits, detailing site structural diversity, vegetation strata, trophic levels, spatial mosaic, landscape connectivity, and site stressors. Staff is working to develop recommendations based on these habitat maps regarding habitat management and potential restoration opportunities. Vegetation and habitat monitoring results were presented at the 2019 Society of Wetland Scientists meeting.

- Staff continued to survey avian fauna by monitoring bird populations, determining abundance and distribution, and assessing how habitats are being utilized on NJSEA properties. The information collected is used to inform policy and land management decisions. Monitoring results were presented at the Annual Harbor Herons meeting and the 2019 Society of Wetland Scientists meeting. Natural Resources staff also participated in the 2019 Annual Christmas Bird Count.

- The third fish survey, which assessed fish data collected from the years 2013 through 2015, was published by Natural Resources staff in 2019. Past fish surveys were conducted in 1987-1988 (published in 1989) and 2001-2003 (published in 2005). The new survey also included benthic invertebrate sampling. The next round of surveys will commence in 2023. Data provides information on current populations, recent changes in communities and long term changes observed over the past 30 years.



Weighing a White Perch from the Hackensack River



Baby Diamondback Terrapin turtle

- The Department continued to document the growing population of Diamondback Terrapins in the Meadowlands, assessing population size and distribution, and attempting to obtain better information about potential nesting areas. Staff presented their findings at the Annual NJ Terrapin meeting.

- Staff assessed shoreline types and developed a GIS database of Meadowlands shoreline typology and conditions. The maps also indicate on-water access points. Building on this data, a summary report is being developed that documents potential future challenges and stressors for each shoreline type, such as sea level rise, along with potential restoration opportunities and strategies.

- Natural Resources staff developed a Wildlife Action Plan for the Meadowlands District, modeling the effort after the State Plan. To date, staff identified and created a list of species of greatest conservation need within the District and the associated breeding habitat for each species. The next steps will be to assess the health of the wildlife and habitats, identifying the problems they face, and outlining the actions that are needed to conserve them over the long term. The goal of the Wildlife Action Plan over time is to develop a strategic and cost-effective strategy for preserving the District's wildlife resources for the future

- The recovery of Osprey populations in the Meadowlands has provided this urban estuary with an exciting new problem – more pairs of Osprey looking to nest within the Meadowlands than there are suitable nesting sites. Nesting is difficult for the Osprey in the region because they seek to build nests higher than any other structure in the immediate vicinity. Too often, selected nesting sites cannot support the nest and they are blown over or disrupted by human activities. To assist with the recovery of the Osprey in the Meadowlands and aid in nest building, Natural Resources staff and its partners are developing a variety of approaches in different areas to immediately create more Osprey nesting potential and to determine what techniques might be successful in other areas of the Meadowlands.



Osprey

- A pilot project at the Meadowlands Conservation Trust's Skeetkill Creek Marsh includes testing alternative invasive species management approaches in an attempt to reduce reliance on herbicides to control these foreign species, namely *Phragmites australis*. Naturalists used a cutting regime on one of the three islands within Skeetkill in the fall as opposed to spraying herbicide. Stem height, stem density, and native plant occurrences will be measured before the first treatment of spring 2020. The data obtained will form the basis of the cutting treatment's effectiveness to better inform future invasive species management.

- To protect existing vegetation and encourage new growth of native trees and shrubs at Losen Slote Park in Little Ferry, Natural Resources staff undertook a pilot project to fence sensitive areas and will monitor changes over the next year. If it is found to be effective, additional fencing may be placed in strategic areas.

- Natural Resources staff continued to assist local researchers with their studies of the Meadowlands ecology and environment. Some of the studies that NJSEA assisted with included conducting a microplastics survey with NJ City University, banding ducks with the NJDEP Division Fish & Wildlife, banding birds with Kean University, and conducting surveys of various species with Bard College. In addition, Natural Resource staff continues to coordinate their efforts with the Bergen County Audubon Society, Hackensack Riverkeeper, Meadowlands Environmental Research Institute, Meadowlands Conservation Trust and the NY/NJ Baykeeper.

- Natural Resources staff attended and presented findings from its many studies at a number of professional meetings. This included participating on a *Phragmites* management panel at the NY/NJ Harbor Estuary Program 2019 Restoration Conference and presenting a summary of 30 years of wetland monitoring results at the Society of Wetland Scientists annual meeting.

- Natural Resources staff taught courses on Waterfront Edge Design Guidelines for The Waterfront Alliance and Ecological Restoration International Standards for the Society of Ecological Restoration and Hudson River National Estuarine Research Reserve.

- Staff regularly attended meetings for the New Jersey Tidal Wetland Monitoring Network, NJ Coastal Resilience Team, Harbor Estuary Program Restoration Working Group, Regional Conservation Action Plan and NY/NJ Resilience Task Force. 

# PARKS



*Aerial view of the estuary at Richard DeKorte Park, Lyndhurst*

As the premier park system in southern Bergen County, the Meadowlands District draws tens of thousands of people each year to its 21 parks and natural areas and eight miles of walking trails. The agency over the decades has designed and created or contributed to the formation of the vast majority of these important green spaces.

DeKorte Park in Lyndhurst, the home of the NJSEA, is the jewel of the Meadowlands park network. Its namesake, the late State Assemblyman Richard W. DeKorte, was instrumental in the formation of the former New Jersey Meadowlands Commission, which merged with the NJSEA in 2015.

The park encompasses one-square-mile of scenic wetlands, nature trails, gardens and water views framed by the New York City skyline. It has been recognized as a birding hotspot in *Birder's World* magazine, a national publication. More than 285 species of birds have been observed in the Meadowlands region, and many migratory songbirds, raptors, shorebirds and waterfowl can be seen at DeKorte, both overhead and in the park's tidal impoundments.



*Saw Mill Creek Trail at DeKorte Park, Lyndhurst*



*World Trade Center memorial lights seen from DeKorte Park, Lyndhurst*



*River Barge Park, Carlstadt*



*Entrance to Mehrhof Pond Wildlife Observation Area, Little Ferry*



*Mill Creek Point Park, Secaucus*



*Bird walk at DeKorte Park, Lyndhurst. Photo courtesy of Joe Koscielny*

Thanks to donations by the Bergen County Audubon Society and a private individual, the Authority planted hundreds of native species within DeKorte Park at the park's Lyndhurst Nature Reserve, Shorewalk and Kingsland Overlook. Species included Purple Coneflower, Swamp Milkweed, Butterfly Weed, Beebalm and Switchgrass. These plants beautify the park while attracting pollinators and providing food for wildlife.

The NJSEA's River Barge Park in Carlstadt, also a Meadowlands favorite, is a vital recreational resource. The 5.5-acre park provides the only boating access to the Hackensack River in the region from its western banks. The marina includes a boat ramp, docks, paddling and rowing launch points, 17 public boat slips, a scenic promenade with picnic tables, and an education pavilion. It is the launch point for the NJSEA's popular guided pontoon boat tours.

Additional parks in the Meadowlands District include Mill Creek Point Park and Mill Creek Marsh, both located in Secaucus, and Losen Slote Creek Park in Little Ferry.

In 2019, NJSEA parks staff began collecting and planting native seeds at DeKorte Park, Mill Creek Marsh and Harrier Meadow in North Arlington to propagate and reestablish natural flora in the area. 🌱

## SHARED MUNICIPAL SERVICES



MERI staffer flies a state-of-the-art drone over a tributary of the Hackensack River

The NJSEA provides and maintains equipment to assist District municipalities in a number of areas at no cost.

Through the agency's Municipal Drone Program, Meadowlands Environmental Research Institute staff deploy state-of-the-art drones to collect data on otherwise inaccessible areas of wetlands, ditches and berms to identify debris, blockages, and erosion so that officials can best plan to maintain and improve their properties.

In 2019, under the NJSEA Municipal Drone Program, MERI conducted flights over drainage ditches in Secaucus, downtown Rutherford and the Losen Slote Ditch in Little Ferry. Videos and photos will help Secaucus to clear and maintain storm water ditches; assist Rutherford in logistics and security planning for events; and aid Little Ferry in assisting engineers in stormwater management and flood prevention.

The NJSEA also offers equipment to help address flooding and sewer-line issues. These include a jet-vac truck, root cutter, two portable automatic self-priming pump systems and a trailer-mounted light tower. The equipment is staffed by NJSEA employees and available to towns free of charge. 🔄



NJSEA jet-vac truck

## MEADOWLANDS ENVIRONMENTAL RESEARCH INSTITUTE (MERI)



Boardwalk trail at Secaucus High School Marsh along the Hackensack River, Secaucus

The NJSEA houses the Meadowlands Environmental Research Institute (MERI), which is operated through a partnership with Rutgers University and provides vital services to the Authority, Rutgers University and Meadowlands District municipalities.

MERI generates the critical knowledge and predictive understanding necessary to sustain and conserve the Hackensack Meadowlands Estuary, which is crucial given the region's sensitive eco-system, and future challenges such as addressing sea level rise and increased flood and storm events. Through scientific collaborations with students, MERI helps to foster the next generation of earth and environmental scientists.

The Institute has conducted numerous studies that have helped to improve and contributed to the comeback of the Hackensack River and its ecologically sensitive wetlands. MERI staff continually monitors and studies the region's water, air and soil quality in real time through monitoring stations placed throughout the River and its marshes.

When the data collected from the monitoring devices show adverse conditions, MERI studies possible factors and formulates methods to mitigate negative influences. This work has played a key role in the revitalization of the Meadowlands' unique urban ecosystem, leading to the return of birds, fish and other species of wildlife that now call the region home.



Aerial of Secaucus High School Marsh



## ASSISTANCE TO NJSEA DEPARTMENTS

MERI provides valuable services to several NJSEA Departments. It played an intrinsic role in assisting with the Land Use Management Department's (LUM) drafting of the NJSEA 2020 Master Plan Update, a major document that will inform the future preservation and development of the Meadowlands District. Institute staff created and updated more than a dozen digital maps for use in the Master Plan. Categories included existing land use, historical locations, redevelopment areas, wetland areas, transportation maps and solar panel locations.

MERI also maintains an online Facility Management System (FMS) for the agency's Sports Complex operations in East Rutherford. This state-of-the-art system displays critical information on utility infrastructure and building information for administrators and emergency managers.

## CURRENT STUDIES

### CO2 Sink Strength of a Restored Marsh

This project aims to measure and compare the amount of carbon dioxide, a harmful greenhouse gas, trapped by Meadowlands marshes to the amount of carbon dioxide that emanates from the wetlands. This research will allow MERI to measure the ability of these ecosystems to sequester carbon dioxide, and to potentially enhance the ability of wetlands to reduce air pollution.

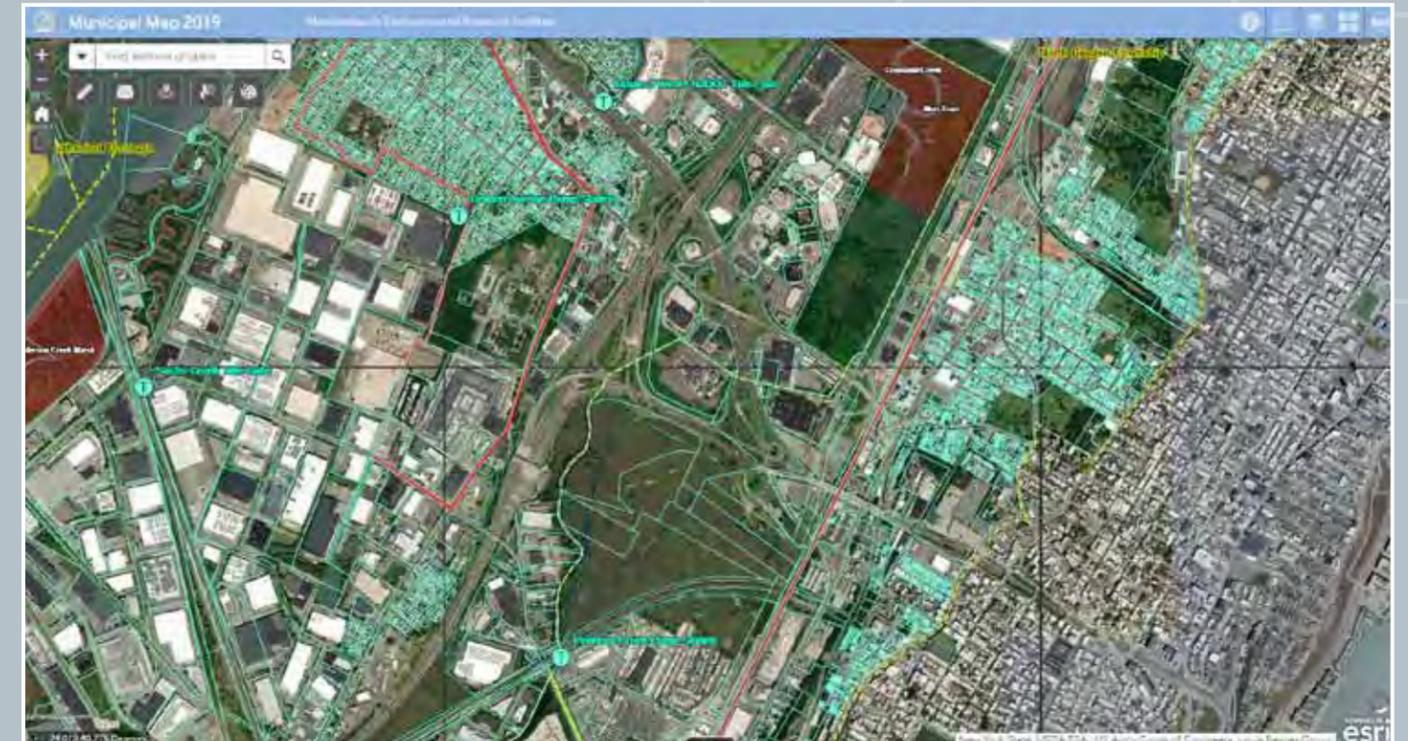
### Long term Monitoring of Marsh Elevation

Marshes along the northern and southern parts of New Jersey have experienced significant reduction due to rising tides and sea levels. In 2008, Surface Elevation Tables (SETs) and field markers were employed at five locations in the lower Hackensack River in the Meadowlands to monitor long term changes in marsh elevation. Ongoing monitoring of these five stations is critical to assess how marsh conditions are affected by sea level rise over time.

## MERI LABORATORY

MERI's state-of-the-art, NJDEP-certified environmental and analytical laboratory houses 22 precision instruments used for chemical analysis and determining inorganic and organic pollutants in soil, water, air, and animal tissues. The state-of-the-art laboratory is equipped with an Inductively Coupled Plasma Mass Spectrometry (ICP-MS), Total Mercury Analyzer, Greenhouse Gas Analyzer, Gas Chromatography with Electron Capture Detector and Flame Ionization Detector (GC-ECD/FID), and Ion Chromatography instruments.

The equipment allows MERI to investigate metal and organic pollutants and their transport in the Hackensack Meadowlands estuary, greenhouse gas emissions from different marsh surfaces, CO2 sequestration strength of wetlands, and contaminate levels in air, water, soil sediments and benthic organisms.



Online GIS Map



MERI Library

## MERI LIBRARY

The MERI Library collection includes more than 12,000 hard copy and digitized documents, engineering reports, research studies, photographs, maps, newspaper articles, and other current and historical documents related to the Meadowlands region. The library is open to the public by appointment.

## MERI GEOGRAPHIC INFORMATION SYSTEMS GROUP (GIS)

The Institute provides vital resources to Meadowlands District first responders and municipal officials through its Geographic Information Systems (GIS) digital mapping program. The GIS team uses progressive technology to create, maintain and update web-based digital maps and mapping tools for every property in each Meadowlands District municipality.

The maps provide emergency officials immediate access to critical information, including continuously updated data on hazardous materials stored in warehouse facilities, fire hydrant locations, incident reports, floor plans, turn-around space for firetrucks, and current and historical aerial imagery. This potentially life-saving information can easily be accessed from field computers, tablets and smartphones.

The online maps also provide information regarding owner, block and lot, easements, zoning and land use, acreage, and building footprint. Building code and tax officials use this data to produce property variance notifications to residents impacted by proposed or other possible changes to surrounding properties.

MERI's GIS group also offers a water level alert system and flood prediction maps to first responders and the public. The email and text-based alerts for District towns are sent when water levels reach 5.5 feet above sea level and continue to be relayed as the levels rise. The interactive, web-based flood prediction maps include the parts of District municipalities that may flood from sea surge levels of 4 to 8 feet. The maps and alerts can be found at the MERI website, [meri.njmeadowlands.gov](http://meri.njmeadowlands.gov).

## DRONE PROGRAM

MERI uses drone technology to collect precise data on the conditions of critical Meadowlands District wetlands and flood protection structures. The drone flights allow staff to analyze otherwise inaccessible areas of wetlands, ditches and berms to identify debris, blockages and erosion.

Data collected gives the NJSEA and District towns information to maintain and improve their properties and structures most effectively. MERI also deploys drones after hazardous events, such as brush fires, to capture the extent of damage and identify existing hazards that can impact the site.

Gathering high-tech information on the structural integrity of man-made and natural berms and the ability of wetlands to absorb storm water is especially important given the Meadowlands' vulnerability to flooding from rain events, storm surges and, at times, regular high tides. Drone flights enable the NJSEA as well as emergency responders and municipal officials to best strategize resiliency efforts.

MERI has a Certificate of Authorization from the FAA granting its licensed pilots permission to fly drones under the jurisdiction of the Teterboro Airport Traffic Control Tower. Drone pilots must receive permission from the FAA through Teterboro Airport to conduct any flights at least one day before each scheduled mission.



Aboard the Mobile Food Lab



MEC students head out along the Saw Mill Creek Trail for dip netting at DeKorte Park, Lyndhurst

**NJSEA-REED FOUNDATION PARTNERSHIP**

In December the NJSEA began a collaboration with the Oakland-based REED Foundation for Autism.

Through this NJSEA-supported initiative, REED established a satellite location in the Meadowlands Environment Center for its REED Next day program for those ages 21 and older that have aged out of State-funded education and social service initiatives.

The year-round REED Next program focuses on pre-vocational and vocational training, as well as volunteer and paid employment opportunities, helping participants to lead more independent, fulfilling and meaningful lives. Using the principles of applied behavior analysis, the program also emphasizes community integration, peer mentoring and assistance with daily life skills.

The day program also helps these young men and women from losing skills acquired in their younger years—from daily care habits like making their own lunch and getting dressed by themselves to crucial life skills like language.

Individuals participating in the program are anticipated to begin performing tasks at the NJSEA’s Science Center and administrative building in 2020.

**SCHOOL PROGRAMS**

In 2019, more than 20,000 students in Grades K-12 from 121 public and private schools in 87 school districts, including 18 urban/special needs districts, participated in Meadowlands Environment Center school programs. The education initiative is provided by Ramapo College educators through a partnership with the NJSEA.



MEC science class on healthy eating and nutrition

School programs are focused on the Meadowlands’ unique urban eco-system. MEC educators incorporate hands-on and inquiry learning and cross-curricular activities that use DeKorte Park as an outdoor classroom. Classes cover a wide array of scientific disciplines including ecology, chemistry, biology, physics, natural history, astronomy, and healthy eating and nutrition.

Thirty-eight schools took part in MarshAccess activities specifically designed to meet the special learning needs of those with visual, hearing, mobility, and mental/cognitive disabilities. This number does not include the countless number of children mainstreamed among their peers who benefit from the MEC programs which are developed using universal instructional design.

The MEC’s extensive weekday, weekend, and evening offerings include programs in environmental science; technology and engineering; Gifted and Talented Convocations; the national model MarshAccess program for people of all ages living with disabilities; family science nights and after school programs in partner school districts; scouting merit badge programs for Brownies, Cub, Boy and Girl scouts; educational summer camps; professional development workshops for teachers; and in-class supplemental science instruction in partner districts.

MEC classes meet Next Generation Science Standards (NGSS), New Jersey Student Learning Assessment – Science (NJSLA-S), and NJ Core Curriculum standards that promote STEM education (Science, Technology Engineering and Math).

These standards have been championed by Governor Phil Murphy as critical for the State to become a leader in the national and international economy. Environment Center staff continually updates and modifies programming to keep pace with curriculum developments at the State and federal levels.



Testing pH levels

Programs are tailored to age levels. For instance, students in Grades K-3 visit DeKorte Park’s salt marsh and meet the animals that make this amazing habitat their home. Older grade-school children learn about the solar system, New Jersey’s geography in relation to migratory birds, and the benefits of composting and astronomy.

Middle-school students explore the basics of biodiversity and study the solar system while high school students learn about “Urban Estuary Ecology” through field work. Older students also examine renewable energy and sustainability by using the Science Center as a working model of green design principles and by experimenting with wind turbine models.

Several times throughout the year MEC educators collaborate with professors from Kean University, Fairleigh Dickinson University, and Ramapo College so that undergraduate students can conduct field studies in biology and environmental science.

**PUBLIC PROGRAMS**

**CENTER FOR ENVIRONMENTAL AND SCIENTIFIC EDUCATION**

Education programs are held in the state-of-the-art NJSEA Center for Environmental and Scientific Education (Science Center). The facility was the first public building in New Jersey to achieve LEED (Leadership in Energy and Environmental Design) Platinum Certification, the highest rating, from the U.S. Green Building Council. The Science Center's many sustainable green features include rooftop solar panels, recycled building materials, and energy-efficient heating and lighting systems.

The Science Center includes a full chemistry lab, amphitheater-style classroom for lectures and four classrooms designed for hands-on activities including microscopy; identification of flora and fauna of the marsh; daytime astronomy; and design and construction of engineering models. The rooms are equipped with computer assisted projection to examine live and preserved specimens and assistive technology for students with special needs.

**MOBILE FOOD LAB**

In 2019 the MEC's Mobile Food Lab traveled to schools throughout the region, providing an exciting, multi-sensory and fun new way for students to study food science and food literacy.

The colorful 50-foot classroom on wheels is designed to foster an interactive learning environment that engages students' senses and curiosity around food. The Mobile Food Lab experience takes place in three interactive sessions: Science, cooking and art. Students find plants in an indoor hydroponic system, a science lab with digital microscopes, a teaching kitchen and an art station.

Programs are tailored to specific age groups. For example, students in Grades K-2 paint using herbs and spices while those in Grades 3-5 explore flavors and make a fresh herb salad with home-made dressing. Sixth through Eighth graders are introduced to Vertical Farming and the future of food.

The Mobile Food Lab is funded in part by a grant from the New Jersey State Health Department's Special Child Health and Autism Registry. The Meadowlands Environment Center received funding for the Lab program through REED Next, an initiative of the Oakland-based REED Foundation for Autism. The MEC is also working on its food literacy curriculum with Newark-based Philip's Education Partner's EcoSpaces Education, a non-profit organization.



*Student analyzing data*



*Mobile Food Lab*



*NJSEA Pontoon Boat touring Saw Mill Creek, a tributary along the Hackensack River.*



*Launch a kyack from River Barge Park, Carlstadt*

The NJSEA attracts thousands of people to its family-friendly, environmentally-themed public programs at DeKorte Park and on the Hackensack River each year. The events are a great way to bring families together to discover the Meadowlands' natural beauty. They also foster a critical understanding of the importance of environmental protection and conservation, especially among young people.

Many of the events are co-sponsored with the Bergen County Audubon Society (BCAS). The NJSEA and BCAS also partner on guided nature walks of Meadowlands parks and natural areas twice monthly. The walks explore locations including DeKorte Park in Lyndhurst, Mill Creek Marsh in Secaucus and Harrier Meadow in North Arlington.

**PONTOON BOAT TOURS**

The NJSEA's highly popular guided pontoon boat cruises of the Hackensack River run from June through September and provide a unique, up-close perspective of the District along the water. Staff lead the leisurely two-hour tours that depart from the NJSEA's River Barge Park in Carlstadt and discuss the region's human and environmental history while pointing out birds and other wildlife along the way, including the Meadowlands' resident Peregrine Falcon family.



2019 Butterfly Day tour at DeKorte Park, Lyndhurst

#### BUTTERFLY DAY

In July, the NJSEA and BCAS celebrated the 10th Annual Butterfly Day at DeKorte Park. Butterfly Day is a great success story. What began a decade ago with three dozen people attending a butterfly-themed nature walk has grown exponentially into the most anticipated NJSEA special event of the year. More than 1,000 visitors, many of them families, attended Butterfly Day, which consisted of butterfly walks and talks, milkweed plant giveaways, and kids' activities including a butterfly-themed costume contest, scavenger hunts, crafts and face painting.

#### MEADOWLANDS BIRDING FESTIVAL

In October, the NJSEA and BCAS teamed up for the Meadowlands Birding Festival, which drew more than 500 people to DeKorte Park. The day included guided bird walks, talks, a digiscoping seminar and keynote address by author Sharon Stiteler, aka "The Bird Chick," live raptor demonstrations, and kids' activities. The NJSEA and the Hackensack Riverkeeper provided pontoon boat tours of the Hackensack River from River Barge Park in Carlstadt.



Meadowlands Birding Festival at DeKorte Park. Photo Courtesy of Joe Koscielny

#### WILLIAM D. MCDOWELL OBSERVATORY

The NJSEA's William D. McDowell Observatory is open to the public for free stargazing every Wednesday evening excluding holidays and weather permitting. The Observatory is operated through a partnership with Bergen Community College. Visitors see and learn about planets, constellations and other celestial bodies.

The research-grade telescope has a 20-inch mirror housed beneath a six-meter retractable dome. The precision telescope is equipped with a variety of tools, including specialized cameras, light-pollution filters, and devices that measure the brightness of stars and analyze wavelengths of light. The Observatory's namesake was the first Executive Director of the Hackensack Meadowlands Development Commission (now the NJSEA). Hours vary by season.



Open viewing night at the William D. McDowell Observatory

#### HALLOWEEN AT THE MEADOWLANDS

More than 250 kids and parents attended the annual Halloween at the Meadowlands event at the Meadowlands Environment Center.

Kids were treated to a Monster Mash Dance Party, games and a live reptile presentation where they learned about the environmental importance of some not so scary creatures. They also participated in educational experiments in the Mad Scientist Laboratory.

#### NJSEA NATURE BLOG MEADOWBLOG.NET

The NJSEA Nature Blog promotes ecotourism and environmental conservation in the Meadowlands by providing the public with wildlife and landscape photos, links to articles about local events and environmental news, and other items. The blog is interactive; readers are encouraged to share their photos and report observations from around the region. NJSEA news and event information can also be found on the agency's Facebook page, "The Meadowlands." 



2019 Halloween at the Meadowlands

**STATEMENT OF REVENUES, EXPENSES & CHANGES IN NET POSITION  
GOVERNMENTAL OPERATIONS**

December 31, 2018

**OPERATING REVENUES**

Expense Reimbursement	\$ 860,000
Fees & Charges	731,000
Lease Payments	975,000
Revenues from Composting Operation	193,000
Other	506,000
<b>Total Revenues</b>	<b>\$ 3,265,000</b>

**OPERATING EXPENDITURES**

Governmental Operations	\$ 11,980,000
Environmental Center Operations	779,000
Solar Array 1-A	20,000
Other Expenditures	319,000
<b>Total Operating Expenditures</b>	<b>\$ 13,098,000</b>
<b>Excess of Revenues over Expenditures prior to Non-Operating Costs</b>	<b>(\$9,833,000)</b>

**NON-OPERATING EXPENSES**

MAGNET Grants	(\$14,000)
<b>Total Non-Operating Expenses</b>	<b>(\$14,000)</b>
<b>Net Excess of Revenue over Expenses</b>	<b>(\$ 9,847,000)</b>

**STATEMENT OF REVENUES, EXPENSES & CHANGES IN NET POSITION  
BUSINESS-TYPE OPERATIONS**

December 31, 2018

**OPERATING REVENUES**

Sports Complex Revenues	\$ 21,329,000
Solid Waste Revenues	21,822,000
Convention Center	2,590,000
Other	8,467,000
<b>Total Revenues</b>	<b>\$ 54,208,000</b>

**OPERATING EXPENSES**

Sports Complex	(\$ 12,823,000)
Solid Waste	34,576,000
Convention Center	6,567,000
Depreciation & Amortization	8,990,000
Payment In Lieu Of Taxes (PILOT)	12,134,000
<b>Total Operating Expenditures</b>	<b>\$ 49,444,000</b>
<b>Operating Loss</b>	<b>\$ 4,764,000</b>

**NON-OPERATING INCOME/(EXPENSE)**

Other Income	\$ 18,007,000
Tourism Tax Revenue	4,398,000
Interest Income/(Expense)	237,000
<b>Total Non-Operating Expenditures</b>	<b>\$ 22,642,000</b>
<b>Change in Net Position</b>	<b>(\$ 27,406,000)</b>



Tree Swallow, photo courtesy of Dennis Cheeseman.



Perigrine Falcon, photo courtesy of Joe Koscielny.



Ruby-crowned Kinglet, photo courtesy of Dennis Cheeseman.



Bald Eagle, photo courtesy of Darlene De Santis



**NEW JERSEY SPORTS AND EXPOSITION AUTHORITY**

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*Sunrise at Richard DeKorte Park, photo courtesy of Mickey Raine.*