



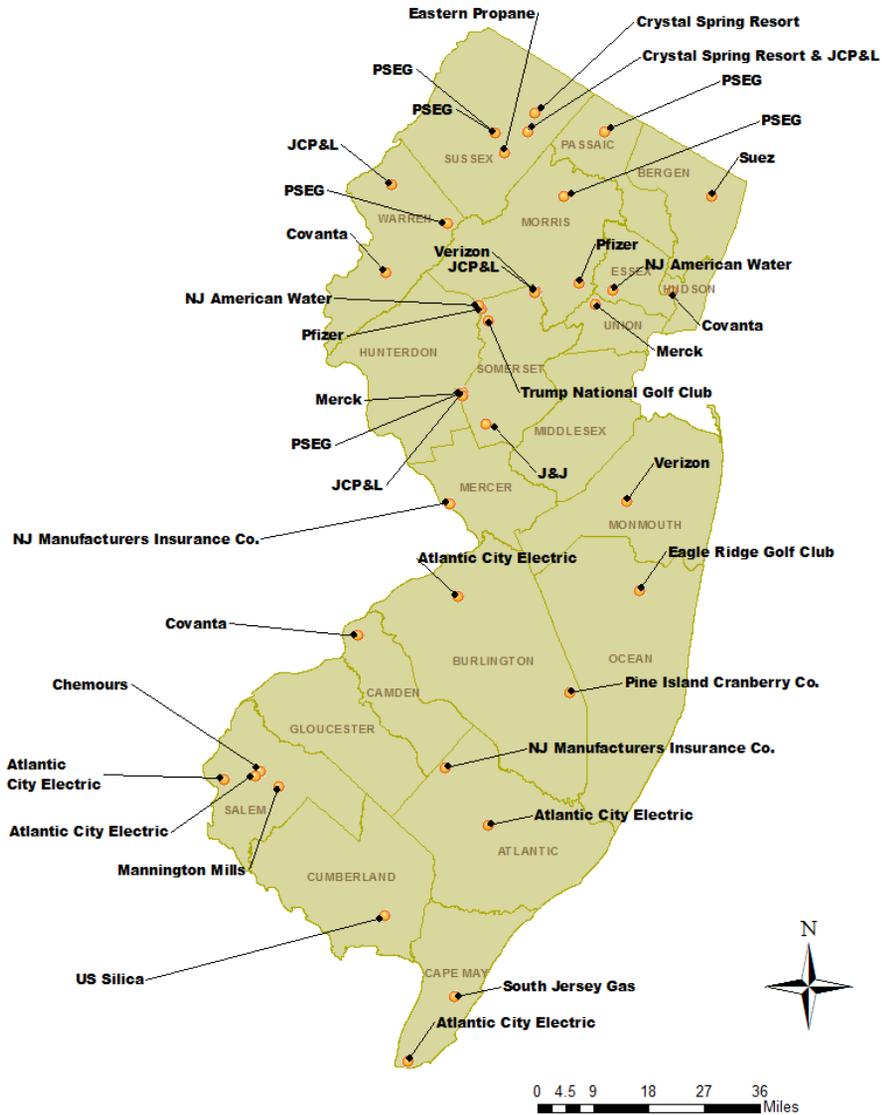
NJ AUDUBON SOCIETY  
**CORPORATE  
STEWARDSHIP  
COUNCIL**

ESTABLISHING THE ROOTS OF CONSERVATION WITH OUR CORPORATE LEADERS

NJ AUDUBON  
CORPORATE STEWARDSHIP COUNCIL  
ANNUAL MEETING

NJDEP OFFICES, TRENTON, NEW JERSEY  
NOVEMBER 3, 2016

# CORPORATE STEWARDSHIP PROJECTS THROUGHOUT NEW JERSEY



This map was prepared by G. MacGregor, New Jersey Audubon. 2015

## CSC Executive Brief

The Corporate Stewardship Council (CSC) is a unique group of 21 New Jersey companies united behind a common goal of environmental sustainability and responsibility. Member companies include co-chairs **PSEG** and **Mannington Mills**, as well as **Atlantic City Electric/Pepeco Holdings, Covanta Energy, Chemours, Eastern Propane, JCP&L, Johnson and Johnson, Merck, New Jersey American Water, New Jersey Manufacturers Insurance, New Jersey Natural Gas, Pfizer, Suez, Verizon, Eagle Ridge Golf Club, Trump National Golf Club-Bedminster, South Jersey Gas, Pine Island Cranberry Co. Inc., U.S. Silica and Crystal Springs Resort**. Ex-officio CSC members are the New Jersey Department of Environmental Protection (NJDEP) and the United States Fish and Wildlife Service (USFWS).

Many companies own or manage land in New Jersey that is located in ecologically sensitive or valuable areas. The Council recognizes the opportunity for these lands to play a critical role in the restoration of valuable habitats and recovery of declining populations of threatened plants and animals and offers a means for member companies to participate directly in habitat conservation.

Each member company works closely with staff at the New Jersey Audubon Society to evaluate habitat restoration or enhancement potential on its property or affiliated sites. Once identified, the partners work together to develop and implement a conservation plan intended to improve upon existing conditions and enhance habitat for rare wildlife and plants. The New Jersey Audubon Society will work with each member company to identify potential sources of outside funding for restoration projects. Member companies may also choose to take advantage of a number of other benefits available to their employees including volunteer work days with New Jersey Audubon staff, onsite environmental programming, and access to New Jersey Audubon staff for advice on shared environmental concerns.

Please enjoy the enclosed summary of the extraordinary projects and accomplishments realized by our members during the third year of the Corporate Stewardship Council. Many other members continue to work with NJAS to develop their projects. In the near future, implementation of these plans in preparation will greatly enhance the diversity and impact of these projects that help to achieve the mission of New Jersey Audubon.



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## Atlantic City Electric

### **Bobwhite Quail & Rare Plant Conservation**

In 2016, Atlantic City Electric (now Pepco Holdings) considered two new project proposals for habitat enhancements along transmission lines. Both project locations are adjacent to state-owned wildlife management areas, so improving sections along these right-of-ways will greatly improve wildlife habitat. The first project proposal aims to increase resources for northern bobwhite quail (*Colinus virginianus*) by creating and managing early successional habitat. Proposed restoration activities include planting native grasses and forbs to improve foraging habitat, retaining native shrubs for winter cover, and creating small canopy openings along the transmission lines to expand habitat.

The second project proposal includes management to conserve rare and endangered plants, including white fringed orchid (*Platanthera blephariglottis*) and yellow fringed orchid (*Platanthera ciliaris*). Management activities include an adjusted mowing schedule in order to avoid crucial bloom periods and treatment and control of common reed (*Phragmites australis*). Controlling non-native invasive plants, such as common reed, will provide ample resources to rare and endangered plants while improving biodiversity and wetland health.

### **Salem River Bog Turtle Habitat Restoration & Cape May Forest Restoration**

Since 2015, Atlantic City Electric/Pepco Holdings has sponsored a wetland restoration project in Salem County aimed to improve habitat for the federally threatened bog turtle. The project enhances 15 acres of freshwater wetlands by removing invasive plants and selectively thinning trees to improve conditions for the bog turtle. The wetlands are surrounded by agricultural land, so buffers will be installed and a 10-acre corridor area will be enhanced to provide habitat connectivity for bog turtles and other wildlife. During 2016, mark-recapture surveys and radio telemetry studies were implemented and will continue for the life of the project. These studies will help monitor the success of management activities by tracking movement, behavior, and habitat use for individual turtles. Since the start of the 2016 season, 1 new bog turtle has been captured and marked, bringing the total to 10 different observed turtles at this site since survey efforts began in the early 2000s.

In addition to the bog turtle project, Atlantic City Electric/Pepco Holdings has made significant contributions to the success of a maritime forest restoration project in Cape May Point State Park. Before the project began in 2011, the 5.5-acre forest site was blanketed by non-native, invasive vines, including sweet-autumn clematis, porcelain berry, and English ivy. The forest continues to show tremendous improvements and is on the path to success. The significant native plant regeneration at this site has offered critical habitat for wildlife, including breeding and migratory birds, Cope's gray treefrogs, and eastern box turtles.



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## Covanta Energy

Over the last 2 years, Covanta partnered with New Jersey Audubon to restore nesting habitats for Chimney Swifts and Common Nighthawks. NJA and Covanta are working to install substitute habitats for these birds on the roofs of Covanta Energy-from-Waste facilities throughout the state.

The first phase of the project involved installing nests for the Common Nighthawk at Covanta Essex in Newark, NJ and Covanta Warren in Oxford, NJ. The nests consist of natural-colored pea stone gravel and are placed in the southern area of the roofs.

With the assistance of Boy Scout Troop 175 of Port Murray for an Eagle Scout project, the second phase of the project came to life in 2016 with the construction and installation on Covanta's Warren County facility's rooftop of an artificial chimney structure made of wood. This structure resembles a chimney and provides suitable nesting habitats for the Chimney Swift. With the placement of this first nesting structure at the Warren facility, Covanta intends to place additional nest towers at its other facilities as the structures become available.

Both Chimney Swifts and Common Nighthawks face a consistent, long-term decline in population numbers due to habitat loss.

Common Nighthawk populations have declined by 2 percent per year between 1966 and 2010, amounting to a cumulative decline of 59 percent according to the North American Breeding Bird Survey (BBS). Across North America, Common Nighthawk threats include a reduction in mosquitoes and other aerial insects due to pesticides, and habitat loss of flat gravel rooftops in urban areas and open woods in rural locations.

Chimney Swifts reside in chimney structures but face a decrease in population due to traditional brick chimneys now deteriorating and modern chimneys typically unsuitable for nest sites. Historically Chimney Swifts nested in older hollowed out trees, many of which have been lost to development, disturbance or forest succession. Similar to Nighthawks, the BBS states Chimney Swifts' populations have declined about 2.2 percent per year since 1966. This is a decrease in 35 of 43 states and provinces Chimney Swifts migrate to and through.

According to the New Jersey State Wildlife Action Plan, both species have been identified as a "species of conservation concern" with regional priority conservation status throughout New Jersey. New Jersey's goal is to stabilize or increase populations throughout the state. The placement of nesting patches and the construction of the chimney swift towers can help address this goal as well as provide a secondary benefit by educating landowners on the importance of providing alternative nesting structures not only to Chimney Swifts, but other species that utilize man-made structures for nesting/roosts such as bats and the Common Nighthawk. Additionally, NJA and Covanta are now reviewing the feasibility of providing an artificial nesting structure for the State Endangered Peregrine Falcon at its Essex County facility. The Essex County facility has confirmed sightings of a pair of Peregrines for the last 3 years during the breeding season, however no nests have been documented in the area.

"Covanta is proud to partner with New Jersey Audubon on this critical project. By utilizing 'wasted space' on our rooftops we can provide nesting habitats that will increase the chances of survival for these birds," said Kenneth E. Armellino, Director, Environmental Science and Community Affairs. "We hope it can be a model to be used across the region and the state."



## Suez

Suez (formerly United Water), is the first member of the Corporate Stewardship Council (CSC) to have a project in Bergen County and the only water service company in the CSC to have a property to be managed under a Forest Stewardship Plan (FSP) prepared by NJ Audubon. Plan approval by NJDEP is pending.

The significance of this plan is that it has been prepared in accordance to Forest Stewardship Council (FSC) standards. (NOTE: The Forest Stewardship Council (FSC) was established in 1993 as an independent, nongovernmental, not-for-profit organization that promotes responsible management of the world's forests. FSC maintains initiatives in more than 50 countries worldwide which provides leadership in advancing responsible and sustainable forest management through an auditing and certification process. In January 2012 New Jersey Audubon received accreditation as New Jersey's very first Forest Stewardship Council (FSC) Group Entity. Qualifying private and public forestland owners throughout the state interested in third party certification, now use NJ Audubon as a cost effective means of earning internationally recognized Forest Management FSC Certification.)

It goes without saying that a healthy watershed forest is key to continually providing high water quality into the reservoirs. Additionally, since these forests are surrounded by highly urbanized residential neighborhoods they provide a natural oasis for wildlife and people throughout Bergen County.

New Jersey forests, especially those in close proximity to large population centers, are under a wide range of stressors that compromise their ability to continue regenerating, providing the ecosystem services that we have come to expect from them. Aside from typical environmental stressors such as extreme precipitation and temperature fluctuations, urban forests also have a high proportion of human induced stressors such as introduced non-native plants, insects, and diseases, which become endemic and displace natural flora and fauna.

Fortunately, Suez is being proactive to address these stressors with the development and ultimately the implementation of a Forest Stewardship Plan which is part of a holistic approach to managing their forests for the benefit of watershed protection.

The NJDEP's Bureau of Watershed Regulation infers that diverse, vigorous forest cover provides unparalleled water quality and should be maintained in watershed lands. The chief value of this green infrastructure is to dissipate the energy of rain and snow melt and slow the passage of water across the land and through the soils, thereby reducing erosion and allowing vegetation, soils, organic debris, and wetlands to filter out pollutants before they reach reservoirs. With the implementation of the work outlined in the FSP, the site will provide this green infrastructure and ultimately serve the community as a demonstration area for how landowners can improve forest health and steward the land for natural resource benefits.



## US Silica

US Silica and New Jersey Audubon are developing a Forest Stewardship Plan for two parcels near their Mauricetown plant in Cumberland County, NJ. These particular sites were once active sand mines that have since been decommissioned and reclaimed. Both areas consist of large ponds surrounded by hundreds of acres of forested wetlands and uplands.

The property's location in Cumberland County provides many critical resources to a variety of common, rare, and imperiled wildlife as it sits along the Maurice River and nearby Delaware Bay. The extensive mixed hardwood forests and tidal marshes provide critical resources to many breeding, wintering, and migrating birds, including bald eagles, red-shouldered hawks, barred owls, and several species of songbirds, shorebirds, and waterfowl. In addition, this unique landscape offers habitat for many rare reptiles, amphibians, and invertebrates, including Cope's gray treefrog and eastern tiger salamander. By developing a Forest Stewardship Plan, US Silica and NJ Audubon can focus on enhancing forest health, plant diversity, and integrity while maximizing resources for wildlife.

Forest stand improvements, including select thinning, will lead to a more complex and diverse forest structure. Creating small canopy openings and retaining downed woody debris will improve the habitat by promoting native plant regeneration, improving tree vigor and health, and providing more diverse food sources, nesting areas, and escape cover for wildlife.

In addition, US Silica has been working with a variety of partners to improve early successional habitat that will provide critical resources to Northern Bobwhite quail and other wildlife dependent on this declining habitat type. Improving nearby forests will also supplement these habitat improvements by creating a large contiguous area that supports a wide variety of wildlife species.



## **JCP&L and Crystal Springs Resort**

JCP&L and, Crystal Springs Resort, have become the first CSC members to work collaboratively on a habitat project in the state. Specifically, the two are working with NJ Audubon and the USFWS' Partners for Fish and Wildlife Program, on a long-term project that involves restoring a section of transmission line Row-of-Way (ROW) that traverses through the Black Bear Golf Club that is part of the Crystal Springs Resort.

The project, that was implemented in 2016 with invasive vegetation removals and native grass and forb planting, involves incorporating JCP&L's ROW integrated vegetation management requirements with the aim of encouraging low-growth vegetation, native warm season grasses and native wildflowers and thus, promoting native wildlife. Specific target species will be various pollinators, including wild bees and butterflies, as well as, bird species that depend on early succession habitat types, such as the Eastern Towhee and Prairie Warbler.

Current research from the U.S. Geological Survey's Patuxent Wildlife Research Center in Maryland is showing that the open, grassy or scrubby habitat under some transmission lines are already the best place to hunt for wild bees and that potential habitat associated with ROW management will inevitably become more important as the United States becomes more urbanized. Additionally, other studies are showing that as regions become more urbanized, golf course too have the potential for creating significant wildlife benefits, especially in recent conservation efforts for the Eastern Bluebird, Tree Swallow, Purple Martin, and even Osprey .

The beauty of this project is that given Black Bear Golf Club's position in the landscape, it literally falls in the middle of five (5) recognized New Jersey Important Bird and Birding Areas (IBBA), any habitat management work associated with the project that removes invasive vegetation and encourages more native vegetation that will be consistently maintained will have a profound impact on long-term viability of native avian populations in New Jersey.

This work between JCP&L and Crystal Springs will increase biodiversity and benefits not only wildlife and other natural resources, such as improved soil health and water and air quality, but will also provide educational opportunities. Specifically, interpretative signage will be placed strategically around the course to offer to all the visit the property a chance to learn about the importance of native plants, habitat, wildlife and the ecological services that they provide.



## Pine Island Cranberry Co.

For the second year in a row researchers associated with the Northern Bobwhite Restoration Initiative, led by New Jersey Audubon (NJA), have confirmed active Northern Bobwhite quail nests in the New Jersey Pine Barrens!

University of Delaware graduate students, Phillip Coppola and Kaili Stevens, contracted by NJA, discovered thirteen active nests at the Pine Island Cranberry Bobwhite Quail translocation study site while conducting their weekly radio telemetry surveys on the quail.

“Not only is it very exciting to find these nests, but one nest is occupied by a collared bird from this year’s release that has paired up with an un-collared bird which means that bird is from last year’s offspring,” said Quail Initiative researcher Phil Coppola. “Nesting by individuals that were translocated only months ago reaffirms the effectiveness of this tool for augmenting Bobwhite breeding populations. This is a major step in the overall reintroduction effort for this species here in the New Jersey Pinelands.”

Earlier this year a total eighty-one birds, (37 females and 44 males) were released at the Pine Island Cranberry study site by NJ Audubon and initiative partners, Pine Island Cranberry Company, the New Jersey Division of Fish and Wildlife and the University of Delaware. This was the second of three scheduled translocations of wild Bobwhite Quail captured in Georgia by project collaborator, Tall Timbers Research Station & Land Conservancy, and released at the Pine Island Cranberry study site. In 2015, 80 wild birds were also released on site and through the use of telemetry; researchers were able to confirm 15 nests, 127 eggs laid; and 66 chicks hatched in 2015. Many of which were confirmed to have overwintered at the property and were onsite when the second release of new wild birds occurred.

“We were very excited about this second release because the new birds were released into areas that already have Bobwhite from last year’s release, as well as, the young that were born here last year,” said John Parke, NJA Stewardship Project Director. “Having those birds successfully nest, raise young that overwintered from last year and are still present and are now mating with the new birds this spring only helps increase the likelihood of survival of the new birds in the wild, as well as, adds genetic diversity to this year’s mating season.” added Parke.

In New Jersey the Northern Bobwhite quail is believed to be functionally extinct with the possibility of some birds still existing in southwestern NJ. The decline of Bobwhite, not just in New Jersey but across its entire range, is attributed to the shortage of quality habitat. “With the lack of quality habitat being the most important limiting factor for Bobwhite survival, the Pine Island Cranberry study site provides proof that active management is the key to species recovery,” said Jimmy Sloan, Upland Habitat and Wildlife Biologist with NJ Division of Fish and Wildlife. “Recruitment is important to the long term sustainability of a Bobwhite population so these new nests are a great sign that the Bobwhites on the property are thriving and continue to benefit from the forest management being performed on the property,” added Sloan.

The Pine Island Cranberry site in New Jersey was selected to be part of a multi-state initiative to re-establish Northern Bobwhite in the Mid-Atlantic States because of several factors, however it was a State Approved Forest Stewardship Plan outlining long-term management goals and the extent of existing quality habitat already onsite from years of active forestry work, prescribed burning and agricultural best management practices that made it stand out above other sites in the region.

“This is great news; if the quail are thriving, then we’re taking care of the land just like we’re supposed to,” said Bill Haines Jr. owner and CEO of Pine Island Cranberry Company. “Thanks to the hard work from NJ Audubon and everyone else involved with this project, we’re seeing some real progress on bringing the Bobwhite quail back to New Jersey, and I couldn’t be more pleased.”



## South Jersey Gas

In 2016, South Jersey Gas and NJ Audubon continued to implement their state-approved Forest Stewardship Plan on 13 acres of forest adjacent to its Cape May divisional office in Swanton. The plan for this property also received Forest Stewardship Council® certification, an internationally recognized standard for responsible forest management. South Jersey Gas is our first CSC member to secure Forest Stewardship Council® certification for a Forest Stewardship Plan.

The property's location in eastern Cape May County makes it critical forested habitat for breeding and migrating songbirds and rare amphibians, including the eastern tiger salamander and Cope's gray treefrog, which are known to breed nearby. The ten-year Forest Stewardship Plan for this site focuses on enhancing forest health, diversity and integrity and maximizing support for native wildlife.

Implementation of the plan is leading to a more complex and diverse forest structure that will provide more varied food sources, nesting, and escape cover for birds, such as hooded warbler and red-headed woodpecker. During 2016, treatment to control English ivy was extremely successful in virtually eradicating the invasive vine from the property. Reducing this non-native invasive plant will improve forest health and tree vigor while allowing for a more diverse plant community. Forest stand improvement and select thinning was implemented in the spring and will continue through the rest of the year. In addition, three small canopy openings were created in order to establish breeding ponds or vernal pools for amphibians. These forest opening also create areas for basking and nesting reptiles.

Like many middle-aged forest tracts, this sixty-year-old forest has been lacking diversity and structure, but it is on the way to becoming ideal habitat for numerous species, both common and rare.



## **Mannington Mills**

For several years, Mannington Mills has been recognized as a leader in sustainable practices. Efforts have included material recycling, waste reduction, emission reduction, water conservation, and solar energy. In addition, Mannington Mills has converted 12 acres of lawn to native cover, created 15 acres of scrub-shrub habitat along a riparian buffer, conducted wetland remediation activities, and created grassland habitat for wildlife.

In 2016, Mannington Mills and their leasing farmer added conservation practices to several agricultural fields on site in Mannington Township, Salem County, NJ. Best management practices are being incorporated into farming practices that benefit both the farmer and the environment. In June 2016, warm season grass strips were installed along fields that border wetland areas. A grassed waterway and a forested riparian buffer will also be installed in the fall and winter of 2016. These practices will help improve soil health and water quality by reducing runoff, water consumption, fertilizer use, and soil compaction and by increasing organic material and plant nutrients. Converting these small areas to native cover will also create and improve wildlife habitat for grassland birds, reptiles, amphibians, mammals, and invertebrates.

In addition, pollinator habitat was installed along the roadside to help improve wildlife habitat, agriculture, and aesthetics. A diverse mix of native wildflowers, bare mineral soil, and downed debris will provide a stable source of nectar, host plants, and nesting sites for bees, butterflies, and birds throughout the year. Creating a pollinator habitat near agricultural land will greatly benefit the farmer by supplementing native pollinators that are so critical to the health of New Jersey's crop production.



## **PSEG**

An effort to maximize vegetation management requirements and wildlife needs, the stewardship and research departments at New Jersey Audubon have been working collaboratively with PSEG on power line right-of-way management for the last ten years. PSEG, co-chair of NJ Audubon Corporate Stewardship Council, is supporting the development of best-management practices for routine vegetation maintenance on the company's transmission line corridors in order to provide critical habitat for various species of conservation need.

Preliminary survey results are suggesting that a variety of target scrub-shrub bird species are using transmission line corridors in New Jersey for portions of their life-cycle including breeding and foraging areas. Additionally, data that has been collected via the survey work continues to suggest a link between improving habitat conditions via vegetation management along the right-of-ways for several herptile species, including two State Species of Special Concern, the Marbled Salamander and Eastern Box Turtle.

The Before After Control Impact (BACI) design used by NJ Audubon in this study, coupled with a Structured Decision Making approach, will allow NJ Audubon to make scientifically based recommendations for modifying PSEG management protocols that improve critical habitat for rare, threatened and endangered species, while satisfying the company's regulatory requirements for vegetation management.

The BACI design will allow NJ Audubon to identify the most effective management alternatives and model predicted outcomes, and results of post-management surveys will allow us to verify and adjust the models, thus commencing an iterative Adaptive Resource Management (ARM) process.



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## Chemours

Since 2011 Chemours (Formerly DuPont) has offered annual support to NJ Audubon's restoration work through their Clear into the Future grant program, and by helping to involve their staff members as volunteers on our restoration projects. In 2016, Chemours continued habitat enhancements at Chemours' large Chambers Works property in Deepwater, NJ. This property, adjacent to the Delaware River, offers hundreds of acres of wildlife habitat, including scrub-shrub fields, grasslands, forested wetlands, and freshwater wetlands.

Habitat enhancement include continued management of several fields found throughout the forest. These fields were planted with a variety of native trees and shrubs and managed to reduce non-native invasive plants. This enhancement will ultimately increase contiguous forest habitat while providing vital resources to a variety of rare, common, or imperiled wildlife species. In addition, improvements to adjacent freshwater wetlands were made by controlling the non-native invasive common reed (*Phragmites australis*).

Additional habitat enhancements planned for the future include enhancement and management of the large grasslands on and surrounding the plant's landfill areas. These grasslands can be managed to support breeding grassland birds such as vesper sparrows and eastern meadowlarks. Pollinator habitat will be added to various areas throughout the property in order to support native bees and other pollinators and scrub-shrub habitat will be managed to support many early successional birds. Vernal pools will be created in forested wetland areas to support breeding amphibians such as New Jersey chorus frogs, wood frogs, and marbled salamanders. Improvements to habitat will benefit a wide variety of resident wildlife including bald eagles, ospreys, muskrats, eastern cottontails, and native pollinators.



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## **Eagle Ridge Golf Club**

In year 5 of its 10-year Partners for Fish and Wildlife agreement with USFWS, Eagle Ridge continues to provide stewardship activities to maintain their native grassland, wetland, and riparian habitat restoration efforts which include periodic mowing and removal of non-native invasive vegetation. They, like the other CSC project sites, employ a nest box program for eastern bluebird, tree swallow and purple martin. Grassland species such as State listed grasshopper sparrow, savannah sparrow and eastern meadowlark are still observed breeding at the site. A total of 58 bird species, 5 herptile species, 10 mammal species and numerous beneficial insects such as butterflies, native bees and other pollinators have been documented on site.

The Eagle Ridge Golf Club, which is located within the USFWS' Atlantic Coastal Bay focus area of the Partners for Fish and Wildlife program, has become a model site that provides the public with opportunities to view what was done to improve habitat for a diverse array of species. The site acts as an educational "hub" providing opportunities and encouragement to the public for implementing habitat improvements on the surrounding residential properties, thus creating connecting habitat corridors for wildlife.

"Eagle Ridge is demonstrating an outstanding commitment to sustaining native wildlife populations." said John Parke, Stewardship Project Director for New Jersey Audubon. "They are solidifying a symbiotic relationship with the surrounding community to foster environmental awareness and a conservation ethic while enhancing wildlife and natural systems in New Jersey."



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## New Jersey American Water

New Jersey American Water completed its second Corporate Stewardship Council (CSC) project at its Canoe Brook Facility in Millburn, Essex County, NJ with NJ Audubon (NJA) and US Fish and Wildlife Service (USFWS) as its partners. Now with two full years of growing season under its belt and additional invasive vegetation controls conducted in 2016, the project site is thriving with native vegetation and numerous wildlife species!

Home to resident Bald Eagles, owls and numerous other bird species the location of the Canoe Brook facility offered a unique opportunity to restore and enhance habitat on a site that is also a critical stopover area for migratory birds and yet is embedded in a suburban landscape. The site provides an oasis for wildlife either making the site their home or simply a resting location on their migratory journey.

The project encompasses a 30-acre wetland restoration to restore and/ or enhance breeding and foraging habitat for amphibians, and birds including dabbling ducks and wading birds, such as herons and egrets. NJ American Water with the help of the USFWS and NJ Audubon performed years of large scale invasive non-native vegetation controls. This stewardship practice involving invasive species control will continue on an as needed basis under their management plan. Additionally the vernal pools that were installed as part of the project and the native grass plantings area are now supporting numerous wildlife species.

“As opposed to the adjacent reservoir or river, the creation of these vernal pools are very important at the Canoe Brook site because the wet-dry cycle of these pools prevents fish from becoming established, allowing critical breeding and rearing habitat for amphibians (frogs, salamanders), crustaceans, and insects,” said John Parke, Stewardship Project Director of New Jersey Audubon. “In North America, approximately one-half of all frogs and one-third of all salamander species rely on seasonal or temporary wetlands for development. So these vernal pools provide a critical window of necessity for these species to function and fulfill their role in the ecosystem, which includes being part of the food web.”

Secretive wading birds like herons, bitterns, snipe and egrets are attracted to the pools as a foraging area feeding on amphibians and their larvae in the pools. Reptiles such as the eastern painted turtle, snapping turtle and the eastern garter snake also use vernal ponds, as feeding stations as they move from one area to another. Waterfowl such as the wood duck, black duck and mallard use vernal ponds extensively during migration, consuming insects, crustaceans, and seeds for energy during their long flights. Shorebirds, such as the spotted sandpiper, solitary sandpiper, and yellowlegs search out and feed on exposed mud flats that are created as water levels drop in the pools. Mammals, such as raccoons, opossum, and bats will use vernal ponds too as a water source and foraging areas as well as migratory avian insectivores such as swallows and fly catchers that are attracted to them to feast on the insects that fly over the water.

Not only do the vernal pools help wildlife but they help protect watersheds in that they capture and hold water, allowing time for it to seep into the surface and recharge groundwater supplies. This reduces the amount of water runoff and lessening erosion.



## Trump National Golf Club

Trump National Golf Club after completing its second phase of habitat restoration at its Bedminster, NJ property in 2014 with additional native grass seeding and riparian plantings to benefit migratory bird and pollinators, is now providing stewardship efforts to maintain the habitat.

Though the installation of native plants at the property through entering into a 10-year agreement with the USFWS Partners in Fish and Wildlife Program, a variety of bird, amphibian and butterfly species have been documented to be actively utilizing the property as breeding grounds.

Everything from rare species such as Bobolink and Savannah Sparrow to common species such as Song Sparrow and Tree Swallow, to the brilliant Indigo Bunting and Baltimore Orioles are utilizing the new habitat areas. Numerous pollinators such as butterfly species and native bees are also thriving at the site because of the native vegetation that is providing suitable forage and breeding areas. Given this diversity of wildlife, it is not surprising that a golf course that is implementing habitat improvements are recognized as being increasingly important for nature conservation. The site basically offers comparatively stable areas within an ever-changing landscape in which wildlife can find refuge.

“Working with the USFWS and NJ Audubon has been a tremendous success on many levels. They have consulted on transforming vast acres of our property with native plant species which has enhanced the beauty of the course and increased wildlife habitat. The process has been both fun and educational for staff and membership.” said David Schutzenhofer General Manager, Trump National Golf Club.



## Johnson & Johnson

Spring 2016 kicked off with volunteers from Johnson and Johnson's (J&J) Skillman, NJ campus joining New Jersey Audubon and the US Fish and Wildlife Service (USFWS) to plant over 700 native trees and shrubs on the campus grounds. The work is part of J&J's 10-year commitment to enhance wildlife habitat and natural resource protection at the property through its participation in the NJ Audubon Corporate Stewardship Council and the USFWS Partners for Fish and Wildlife Program. Habitat restoration work has been on-going at the site since 2014.

"The US Fish and Wildlife Service appreciates the concern for wildlife demonstrated by J&J and their interest in corporate stewardship at their Skillman facility," said Brain Marsh, Private Lands Biologist with USFWS. "How corporate properties are managed in NJ makes a big difference for many populations of wildlife. I hope most of these trees and shrubs will grow for many years providing food and cover to bluebirds, cedar waxwings, northern flickers, and a variety of other species of migratory birds," added Marsh.

The trees and shrubs planting around the pond and stream areas on site not only provide improved habitat for many species of wildlife, they are also part of a planned riparian buffer that will play a key role in increasing water quality in these water bodies, thus providing many environmental benefits. A riparian buffer is a vegetated area (a "buffer strip") near a stream, which helps shade and partially protect a stream from the impact of adjacent land uses.

"Water quality is an ever-growing concern in New Jersey," said John Parke, NJ Audubon Stewardship Project Director. "Storm water runoff from agricultural fields, manicured lawns, parking lots and roadways can deposit pollutants into waterbodies that can have significant impacts on aquatic organisms. These organisms are essential building blocks to a healthy ecosystem," added Parke. "With this planting of the native trees and shrubs and allowing for other vegetation to grow up around them and not mowing all the time in these areas, J&J is creating a buffer that will help trap and filter sediment and other pollutants from entering the water."



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## Pfizer

Colleagues from Pfizer, a member of the New Jersey Audubon's Corporate Stewardship Council (CSC), recently volunteered their time – working with the New Jersey Audubon (NJA) – to plant several species of native trees including Sugar Maple, White Pine, American Sycamore and Red Oak at Pfizer's Peapack campus. These trees are all native to the region and support a multitude of local wildlife species.

Pfizer has been working in support of a forest management plan, written by local professional forestry firm Gracie & Harrigan, since 2014. It is focused on improving the quality, health, diversity and vigor of the local forest. To accomplish this, the plan addresses reducing the quantity and colonization of non-native and invasive plants, as well as improving native plant re-generation. Pfizer and its colleagues are committed to sustainability. Active conservation management, including the native tree planting, is part of a larger environmental sustainability initiative Pfizer is integrating into its business and supplier network.

"New Jersey's forests are facing many threats that are outpacing the ecosystem's natural ability to adapt to them," said John Parke, NJA Stewardship Project Director. "The state of New Jersey's forests, as shown in numerous scientific reports by the US Forest Service and others, indicates our forests lack diverse age class distribution. This means that because the majority of New Jersey's forests are the same age, they are more susceptible to disease, pest infestations, invasive species, natural disturbance events, like a hurricane, and are no longer providing habitat for many wildlife species that had previously thrived. By Pfizer taking a proactive approach to managing its forest it shows their commitment to improving the forest's future and the wildlife that depends upon it."

The recent work at the Pfizer campus will provide important habitat to a variety of wildlife including at-risk migratory birds and other species. Work done to date has included large-scale removal of invasive non-native vegetation, timber stand improvement by selective thinning, as well as native tree planting.



## Verizon

Stewardship of the natural resources is often forgotten by many after the initial restoration work is performed. With two CSC project sites, one in Basking Ridge and the other in Freehold, Verizon continues to set an excellent example of long-term sustainable management and stewardship of a natural resource that protects our natural heritage.

Nine years after enrolling into the USFWS' Partners for Fish and Wildlife program, Verizon's Basking Ridge site continues to provide incredible habitat value for numerous wildlife species. The site is a model of wildlife conservation by providing several different types of habitat including grassland, riparian, open water, forest, and wetlands. By actively providing maintenance to the areas to preserve habitat integrity, as well as encouraging their employees help monitor species on site, has resulted in 117 different bird species documented on site, of which, eleven are State listed Threatened or Endangered species and nine are State Species of Special Concern!

The Verizon Freehold facility, in its fourth year of its Partners Agreement, is also in "Stewardship Mode" to maintain the habitat that has been restored and enhanced on site. Over the past four years the restored meadow has been home to numerous pollinator species, but several unique bird species have also been observed using the meadow for foraging and nesting opportunities, including the State Endangered Northern Harrier and State Threatened Savannah Sparrow, respectively.

Additionally, both sites employ a bird nest box program which also has been extremely successful. To date; over 500 Purple Martins, 100 Eastern Bluebirds and countless Tree Swallows have fledged from these properties. These avian species play an important role in an integrated pest management strategy for controlling many agricultural and garden insect pests.



## Project Sites in the Queue for 2017

It has been another highly successful year for the New Jersey Audubon Corporate Stewardship Council (CSC) but there is more to come in 2017!

**Crystal Springs Resort** was noted during the NJA site evaluation process as offering numerous core habitat types and sub-habitat types which account for high biodiversity and species abundance (both plant and animal) at their properties. Additionally, CSR's location on the landscape is positioned as such that it literally falls in the middle of five (5) recognized New Jersey Important Bird and Birding Areas (IBBA), not including that one of the CSR properties, Ballyowen, is currently accepted as a "Provisional IBBA". With this information in mind, Crystal Springs Resort has begun working with NJ Audubon and USFWS in 2016 to develop a large scale habitat restoration on a disjunct portion of the property that will not only provide critical habitat for numerous wildlife species, but will also provide educational and passive recreational opportunities for its guests. This additional project includes: habitat enhancement for bog turtle, grassland birds and young forest species.

**Pfizer** after completing a Forest Management Plan with their forester for its Peapack-Gladstone facility, Pfizer now is discussing with NJ Audubon to possibly upgrade their Forest Management Plan to a Forest Stewardship Plan and is considering making it a gold standard of having it conform to the Forest Stewardship Council (FSC) standards much like other CSC members have done, such as Suez and South Jersey Gas.

**New Jersey Manufactures Insurance Group** (NJM) has a unique opportunity associated with their properties in that both properties are in a transition zone between highly urbanized areas and agricultural land. Working with NJA has provided them with an opportunity for two native grassland and pollinator meadow projects at its West Trenton and Hammonton campuses. However, final approval from NJM is still pending. When these projects eventually move forward it will be the first CSC project in Mercer County and only the second CSC project in Atlantic County. Once the projects are moved forward they will serve as model sites in the community to demonstrate the value of creating habitat that provide critical breeding areas for wildlife as well as aiding in controlling storm water runoff and improve water quality.

**Eastern Propane** has been presented with a habitat restoration and management plan by NJ Audubon and USFWS for its property in Sparta Township, Sussex County, New Jersey. However final approval from Eastern Propane is still pending. The property abuts the Paulins Kill River and lies in the USFWS Partners Highlands/Middle Delaware River Focus Area. The property offers incredible opportunities for habitat restoration and enhancement for numerous young forest wildlife species, especially migratory birds, as well as providing nesting areas and foraging habitat for the State Threatened Wood Turtle.



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## **What Makes the CSC Different from other Conservation Councils?**

Ecological restoration AND stewardship of those restored or preserved lands are endeavors of public concern, even if it is conducted on privately owned land without public expenditure. A restored ecosystem that is MAINTAINED over time provides beneficial natural services well beyond property boundaries. We depend on ecological goods and services everyday for our health, social, cultural, and economic needs. Ecological functions are the base resources that sustain our lives. The sustainability of communities and economies depends upon our ability to restore AND steward the ecological functions of our landscapes for future generations.

CSC members understand that their projects must be supported by providing on-going stewardship activities. By performing these stewardship actions voluntarily as part of the CSC, our members show leadership in the business community by providing an example of corporate social responsibility towards our environment. Additionally, stewardship actions ensure the ecological integrity of the lands that our CSC members helped restore in previous years continue to provide valuable environmental services to all that live here. How we care for our environment through conservation and stewardship is the key to a meaningful, healthy and enjoyable existence.



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**Notes**



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The New Jersey Audubon is a privately supported, not-for-profit, statewide membership organization. Founded in 1897, and one of the oldest independent Audubon societies.

New Jersey Audubon fosters environmental awareness and a conservation ethic among New Jersey's citizens; protects New Jersey's birds, mammals, other animals, and plants, especially endangered and threatened species; and promotes preservation of New Jersey's valuable natural habitats.



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Photos courtesy of Bill Dalton, John Parke and Kristin Meistrell.