



**NEW JERSEY  
AUDUBON**

December 1, 2017

Judith Swift,  
Director North Atlantic Coast CESU  
124 Coastal Institute  
URI Bay Campus  
Narragansett, RI 02882

Dear Judith Swift,

Please find attached New Jersey Audubon's (NJ) application to join the North Atlantic Coast CESU. Through this application we express our desire to enroll in the CESU as a new partner organization. We have read the CESU agreement and agree to support the CESU mission and goals and fulfill the roles and responsibilities of a nonfederal partner as described in the CESU agreement.


NJA is 501(c)(3) non-profit, statewide membership organization dedicated to fostering environmental awareness and a conservation ethic among NJ citizens while preserving wildlife and natural systems. We are considered conservation, stewardship, wildlife research, and environmental education leaders in NJ. Through research-based stewardship programs we promote active habitat management and preservation on public and private lands throughout the state, with the goal of maintaining, restoring, and enhancing native environments. We also engage over 50,000 children and adults annually through award winning programs carried out by our education and nature center staff.

NJA is widely recognized for our work in the conservation of migratory birds, habitats, and other wildlife species in New Jersey, the North Atlantic Coast region, and Internationally. Conservation activities include habitat creation, enhancement, and management to benefit target species; assessing population response to determine outcomes of these activities; initiating specific conservation actions to benefit at-risk species; conducting surveys to assess population status of species of concern over large landscapes; assessing the effects of anthropogenic threats on bird populations; and engaging the public in data gathering and other activities to raise conservation awareness. Our recent projects (current or completed) partnering with federal agencies are summarized in the attached application, as are the credentials of our staff.

NJA has a strong history of collaborating with state and federal land managers, environmental and research agencies, as well as with universities and other non-profit environmental institutions. Data and reports resulting from our projects become tools for making and supporting decisions on conservation policy development, species conservation, and land stewardship initiatives. These decisions may occur at the local, state or regional level. We provide technical assistance, planning support, and other needed services for federal resource managers in a way that is timely and relevant to their critical needs, and work collaboratively with federal and other partners to enhance the generation, synthesis, and use of scientific information for the resolution of critical issues. Inclusion in the CESU network would allow our organization to provide skills, expertise, citizen scientist network, strong member base, and exceptional reputation in the areas of research, monitoring, stewardship and education to regional projects and continued partnerships with DoD, USFWS, NOAA, NPS, NRCS, USGS, and USACE. The core values and goals of NJA are much aligned with those of the CESU, so we believe our organization would provide significant benefit to the network.

Please do not hesitate to contact me if there are any questions. We look forward to joining the North Atlantic Coast Cooperative Ecosystem Studies Unit, partnering with other CESU members, and contributing our perspective and technical knowledge in finding solutions to the environmental issues that the region faces. We look forward to hearing from you.

Sincerely



David S. Mizrahi, Ph.D.  
Vice-president for Research and Monitoring

## **Request from New Jersey Audubon to join North Atlantic Coast CESU December 2017**

**New Jersey Audubon** (NJ A) is a not-for profit conservation organization. Through this application we express our desire to enroll in the CESU as a new partner organization. We have read the CESU agreement and agree to support the CESU mission and goals and fulfill the roles and responsibilities of a nonfederal partner as described in the CESU agreement.

### **Description of the organization and its mission**

NJA is 501(c)(3) non-profit, statewide membership organization dedicated to fostering environmental awareness and a conservation ethic among NJ citizens while preserving wildlife and natural systems. Founded in 1897, NJA is the state's largest and oldest environmental organization with support from over 18,000 members. We are considered conservation, stewardship, wildlife research, and environmental education leaders in NJ, engaging over 50,000 children and adults annually through award winning programs carried out by staff at our 6-staffed visitor/nature centers and numerous wildlife sanctuaries. Our volunteers give over 26,000 hours of their time annually, leading field trips, conducting programs, answering questions and participating in events that engage people in activities that nurture a sense of wonder and appreciation for our natural world and which ultimately develop a strong conservation ethic among people of all ages. Our Citizen Science programs combine the ornithological expertise of NJA staff and a highly-skilled amateur birding community to develop a rigorously-trained volunteer corps capable of monitoring the state's bird populations. Through research-based stewardship programs we promote active habitat management and preservation on public and private lands throughout the state, with the goal of maintaining, restoring, and enhancing native environments.

As the leading voice in New Jersey on conservation and related issues, NJA fulfills its mission through a set of specific goals focused on engaging people, saving species and conserving and restoring habitat across three priority landscapes: Coasts and Wetlands, Forests and Farms, and Cities and Town. We achieve our goals by implementing strategies in four key areas: Stewardship, Research, Education and Government Relations. Within each facet of our mission, NJA has made significant advances, building on past successes while keeping a watchful eye towards the future. Together these strategic activities strengthen NJA's mission and make New Jersey a better place for people and wildlife.

### **Primary focus of collaborative activities to be supported through the CESU**

NJA is widely recognized as a leader in the conservation of migratory birds, habitats, and other wildlife species in New Jersey, the North Atlantic Coast region, and Internationally. Conservation activities (detailed below) include habitat creation, enhancement, and management to benefit target species; assessing population response to determine outcomes of these activities; initiating specific conservation actions to benefit at-risk species; conducting surveys to assess population status of species of concern over large landscapes; assessing the effects of anthropogenic threats on bird populations; and engaging the public in data gathering and other activities to raise conservation awareness.

Examples of habitat creation, enhancement and monitoring activities at NJA include projects to control invasive species, minimize effects of overabundant white-tailed deer, create healthy and diverse forests, optimize management strategies on grasslands, utility rights-of-way and other managed habitats, and efforts to restore and improve habitat for beach-nesting birds. NJA initiated the Cape May Habitat Restoration Task Force to control invasive plants and improve wildlife habitat by surveying, managing, and monitoring critical sites throughout the Cape May Peninsula. We are working to implement the principles of ecological forestry at a landscape level across New Jersey by partnering with private and public landowners to collectively manage large tracts of forest for sustainability and other non-commodity forest resources. We are assessing the response of Golden-winged Warbler and other young forest species to habitat management on utility rights-of-way and other anthropogenically modified habitats. We partnered with the Joint Base McGuire-Dix-Lakehurst, Westover Air Reserve Base, and Patuxent River Naval Air Station to address questions on how grassland management affects avian use of airfields at multiple spatial and temporal scales. Through this work we aim to support development of sound management plans for airfield maintenance that benefits grassland birds while minimizing bird strikes. We also completed and continue to assess the effectiveness of a large project to improve habitat suitability for beach-nesting birds and roosting shorebirds through restoration and targeted management activities (e.g., predator control) at Stone Harbor Point, New Jersey.

NJA engages in targeted conservation actions for specific at-risk species, including Northern Bobwhite, Golden-winged Warbler, and Semipalmated Sandpiper. We are working to reintroduce and monitor the population status of Northern Bobwhite in the NJ Pinelands. This species has experienced one of the most dramatic population declines over the last 30 years. Northern Bobwhite is believed to be functionally extinct in New Jersey with the possibility of some birds still existing in southwestern NJ. NJA is working with private and public landowners to create habitat for Golden-winged Warbler, a state-endangered species that has experienced drastic declines and has been petitioned for federal listing. We are monitoring population response of this species on a variety of managed sites throughout northern New Jersey. NJA is an international leader in Semipalmated Sandpiper conservation, a shorebird species that is now considered a high-priority because of populations have declined by nearly 80% since the 1980s. We are working with partners to implement full life-cycle conservation, which includes documenting migratory connectivity, long-term stopover monitoring in Delaware Bay, and assessing and addressing threats (e.g. illegal and poorly regulated shorebird hunting, shrimp agriculture) to populations on wintering grounds.

NJA is committed to conducting systematic surveys across large landscapes to assess species and/or habitats for which current population data are lacking or insufficient. For example, NJA is participating in a regional study to assess the status of Black Rail and other secretive marsh birds for which population data are largely lacking. This type of information will be incorporated into regional status assessments and provide a baseline for developing management plans and determining further conservation actions. Through citizen science efforts, NJA has been conducting avian surveys across broad landscapes in New Jersey, including the Pinelands, Piedmont, coastal shorebird habitat and urban wetlands. Finally, NJA led a regional project to categorize Northeastern coastal impoundments in terms of their vulnerability, importance in reducing the risks of inundation to adjacent communities and societal and ecological value.

NJA has a strong interest in assessing the effects of anthropogenic threats to species and communities, given the state's heavy urbanization. We are conducting research to evaluate impacts of bird/building collisions in New Jersey and partnering with others on a project to assess effectiveness of bird friendly

glass. These efforts will help determine factors that underlie causes of bird/building interactions and ameliorate their impacts. In addition, given the history of heavy industrial development and production along NJ's waterways that resulted in high levels of legacy contaminants, we conduct studies of these toxicants in wild birds in coastal and wetlands environments in collaboration with USFWS to determine their impacts.

Data and reports resulting from these projects become tools for making and supporting decisions on conservation policy development, species conservation, and land stewardship initiatives. These decisions may occur at the local, state or regional level. For example, our expertise on wind power development and impacts to birds and other wildlife has prompted our involvement in the development of regulatory measures such as the NJ Department of Environmental Protection's (NJDEP) Technical Manual for Evaluating Wildlife Impacts of Wind Turbines Requiring Coastal Permits, the NJDEP Large Scale Wind Turbine Siting Map Report and the State of RI's Ocean Special Area Management Plan (SAMP). Our findings have been instrumental in shaping grassland management guidelines in the 2010 Commander Navy Installations Command (CNIC) Bird/Animal Aircraft Strike Hazard (BASH) Manual. Results of previous species and habitat assessments have resulted in management plans that include individual DoD installation Integrated Resource Management Plans (INRMPs), management recommendations for minimizing effects of overabundant white-tailed deer and other forest health stressors throughout the state, management recommendations to maintain Golden-winged Warbler habitat on utility rights-of-way, the Harbor Heron Conservation Plan, and significant contributions to the Atlantic Flyway Shorebird Initiative. NJA has been active in advocating for regulations limiting horseshoe crab harvest and the federal listing of the Red Knot.

NJA engages the public in conservation awareness through data gathering activities and educational programming. In the Raritan River Watershed, NJA partnered with Raritan Valley Community College and Science Education for New Civic Engagements and Responsibilities, Informal Science Education (SENCER-ISE) to involve Community College students and citizen scientists in conservation issues of civic importance: document the abundance and distribution of forest breeding birds and the quality of their habitat and make recommendations for improving forest health. Our Citizen Science program has also engaged the public in surveys for grassland birds, forest birds, shorebirds, Black Rail, and long-legged waders. In addition, our Education and Outreach Department develops materials and programs that employ nationally-accepted environmental education standards for excellence and conducts all manner of environment-based classes, seminars, workshops and field trips. This programming is broadly applied to engage diverse audiences including adults, teachers, families and children.

NJA has a strong history of collaborating with state and federal land managers, environmental and research agencies, as well as with universities and other non-profit environmental institutions. We provide technical assistance, planning support, and other needed services for federal resource managers in a way that is timely and relevant to their critical needs, and work collaboratively with federal and other partners to enhance the generation, synthesis, and use of scientific information for the resolution of critical issues. Inclusion in the CESU network would allow our organization to provide skills, expertise, citizen scientist network, strong member base, and exceptional reputation in the areas of research, monitoring, stewardship and education to regional projects and continued partnerships with DoD, USFWS, NOAA, NPS, NRCS, USGS, and USACE. The core values and goals of NJA are much aligned with those of the CESU, so we believe our organization would provide significant benefit to the network.

**Description or list of the primary programs and departments that will likely be engaged in CESU activities.**

Research and Monitoring

The primary purpose of NJA's Research and Monitoring Department is to develop science-based information products and decision-support tools for conservation policy development, species conservation and land stewardship initiatives at NJA, in the state of New Jersey, in the northeast region (i.e., as encompassed by U.S Fish and Wildlife Service, Region 5) and in some cases, internationally. The Department pursues this purpose primarily by designing and implementing research and monitoring programs that focus on priority natural resource conservation issues. Our purpose is also realized by senior staff participation in technical advisory committees and scientific working groups. The Department provides scientific expertise to end users, either directly through the information we develop from our own programs or indirectly through review of products developed by sources external to NJA.

The Research Department is responsible for program development based on an evaluation of current and future priority conservation issues. This evaluation is accomplished in collaboration with the senior staff of the Stewardship Department, the NJA Board of Directors Conservation subcommittee and the organization's president. The Department is responsible for using sound scientific approaches to achieve conservation goals. Doing so provides a defensible foundation for policy and conservation initiatives. Also, we promote this "best practice" within NJA, the state and the region.

The Department, through its Citizen Science Program, is responsible for designing and implementing research and monitoring programs that involve volunteers. In this endeavor, we train volunteer scientists in the skills they need to meet data collection objectives. Additionally, we are committed to interacting regularly with volunteers, which improves their performance and fosters future participation in the Citizen Science Program and with NJA.

The Department has an overarching responsibility to disseminate information about its activities and findings derived directly from our research and monitoring programs. This is typically delivered in the form of technical reports to program funders and peer reviewed publications. However, our responsibility for communicating this information to a broader audience is also important to program effectiveness. We work closely with communications experts and the Education Department to achieve this.

Education and Programming

The purpose of NJA's Education and Outreach Department is to facilitate and foster a cognitive link between people and their environment. We strive to raise awareness of ecological systems and natural history phenomena and to increase knowledge about and understanding of the total environment. We provide opportunities for people to deepen their connection to nature for enjoyment as well as for the expressed outcome of fostering responsible human behavior toward the environment.

To achieve this purpose, education staff engages people in experiences that build on curiosity, discovery and wonder. Programs and materials are place-based, and where appropriate, connect and support NJA's conservation priorities and initiatives and use information and data provided by the Research and Monitoring Department. Programming and material development occurs at all levels within the

Department. Statewide initiatives are broad in scope and look to benefit the organization on a large scale. These initiatives are developed in conjunction with NJA's Stewardship and Research Departments as well as through strategic alliances, partnerships and collaborations with external organizations, agencies and groups that have similar or complementary missions. Local and regional initiatives are mostly planned by and conducted through NJA centers and bird observatories. They are charged with serving a targeted constituency including NJA members, members of their local communities and visitors to the region, and therefore, act as NJA's on-the-ground ambassadors.

### Stewardship

The purpose of NJA's Stewardship Department is to achieve outcomes which provide direct benefits to New Jersey's natural world. While avian and rare species conservation is a focal area, the Department's work emphasizes ecosystem integrity and is inclusive of plants, animals, and ecological communities. The Department realizes these outcomes in a variety of ways: a) working with NJA's Government Relations Department to implement changes in legislative initiatives, statutes, policies, and regulations; b) identifying and fostering New Jersey's natural resources through programs such as the Important Bird and Birding Areas and The New Jersey Birding and Wildlife Trails program (a joint NJA Education and Stewardship initiative); and c) by implementing habitat restoration and stewardship and conservation planning. Whenever possible, we strive to find innovative solutions that forge unlikely alliances in order to achieve the greatest gains and garner stronger support for future endeavors. The Department's charge in collaboration with the Research and Monitoring Department is to identify the primary threats to state and regional wildlife and habitats and craft science-based initiatives to mitigate the impact and achieve net gains. Our charge is not to ask "what is doable", but "what must be done". Nor is our charge to merely ask, "how do we prevent harm", but rather to go further and challenge "how do we improve upon current conditions." Department staff utilizes education, communication and training with a highly selected audience as tools, with the express intent of expeditiously attaining specific conservation outcomes.

### **Relevant websites**

<http://www.njaudubon.org/Home.aspx>

<http://www.njaudubon.org/SectionResearch/ResearchOverview.aspx>

<http://www.njaudubon.org/SectionConservation/StewardshipOverview.aspx>

<http://www.njaudubon.org/SectionEducation/Welcome.asp>

<http://www.njaudubon.org/SectionCenters/NJAudubonStaffedCenters.aspx>

### **Description of facilities and centers that would provide support to the research, technical assistance, or educational activities of relevance to federal land management, environmental, and research agencies that will be engaged in CESU activities.**

NJA maintains stewardship of 34 sanctuaries and conducts its programs through six staffed facilities across the state of New Jersey. NJA's Education Department conducts educational and outreach activities, teacher trainings, and summer camps; NJA produces a magazine (4 volumes per year); has an active presence in social media; and runs festivals through the Cape May Bird Observatory.

NJ Audubon Headquarters are located at Scherman Hoffman Wildlife Sanctuary, 11 Hardscrabble Road, Bernardsville, NJ 07924. Research, Stewardship and Education staff are housed at Scherman Hoffman

(address above), at the Cape May Bird Observatory Center for Research and Education, 600 Route 47 North, Cape May Court House, NJ 08210, and at Wattles Stewardship Center, 1024 Anderson Road, Port Murray, NJ 07865.

**List of and brief description of the staff with expertise in disciplines and subject areas of relevance to federal land management, environmental, and research agencies.**

Several of our staff participate in technical advisory committees and scientific working groups, thus providing scientific expertise on various issues either directly through our program results, or indirectly via review of projects by other groups focusing on common issues. Individuals in Research, Stewardship and Education Departments that we anticipate will be active in North Atlantic Coast CESU projects include:

*David S. Mizrahi, PhD*, Vice-president for Research. Dr. Mizrahi is responsible for developing priorities, programs, strategic plans and budgets for the Research Department. He currently manages a budget of \$1,000,000, 90% of which comes from external grants and contracts. He supervises two PhDs, one MSc and the department employs from 3-12 technical and administrative staff, depending on work load demands. His responsibilities also include evaluating program effectiveness, as it relates to project specific goals and objectives, but also with respect to NJA's overall mission. Under his direction, the department has become a leader in the conservation of migratory birds. Many of the Research Department's projects are regional in scope and in some cases, international. The department is currently working on projects to conserve young forest habitats used by conservation concern species like Golden-winged Warbler and Prairie Warbler, assess the status of Black Rail populations in New Jersey, restore habitats for beach nesting birds like Piping Plover and American Oystercatcher and evaluate contaminants exposure in birds in urban landscape. Dr. Mizrahi's specific expertise is in the ecology and conservation of shorebirds, the effects of wind power development on migratory birds, using remote sensing techniques to characterize migratory connectivity, flight patterns and habitat use in migratory birds and habitat restoration and management for wetland bird species.

*Catherine Nellie Tsipoura, PhD*, Research Senior Scientist and the Director of Citizen Science. Dr. Tsipoura is currently the co-PI on two coastal resilience projects, supported by DOI funds through NFWF, leading beach restoration efforts at Stone Harbor Point (Cape May Co., NJ) and the assessment of vulnerability and importance of coastal impoundments in the Northeast US. She coordinates nesting bird monitoring at three restored beach habitats under contract with the National Park Service climate resiliency project funded by NFWF. She has conducted research and published peer reviewed papers on the ecology and ecotoxicology of a variety of avian species, conservation management, and citizen science and outreach. Dr. Tsipoura leads urban research efforts in collaboration with Rutgers, NYC Audubon and other researchers in the NY/NJ Metro area. She also coordinates volunteer surveys of breeding grassland and forest birds; nightjars; migrating shorebirds; and colonial waterbirds. She serves on the NJDEP Commissioner's Science Advisory Board.

*Kristin Mylecraine, PhD.*, Research Senior Scientist at NJA. Dr. Mylecraine's responsibilities include developing, managing, and implementing research and monitoring projects in northern New Jersey. Her current research focuses on early successional and young forest bird species, including Golden-winged Warbler, Prairie Warbler, Ruffed Grouse, and other species of conservation concern. She has been involved in a variety of NJA Citizen Science projects, as well as a variety of



breeding and migration surveys in urban wetlands, grasslands, and a regional coordinated effort to monitor marsh birds, as well as a population genetics study of Canada Geese prior to joining NJA. She currently manages projects to assess population status and response of early successional species to management activities in highly managed habitats, such as transmission line corridors and restored landfills, as well as forest stewardship activities on private lands. Results will be used to develop recommendations for future management strategies that will benefit target wildlife species, while meeting other landowner and human objectives.

*Michael Cobb Allen, MSc*, Research Project Manager. Michael studied the responses of Acadian flycatchers to eastern hemlock decline. He was Project Manager for a multi-year study of grassland bird populations on military airports, funded by the Department of Defense, focused on conservation-priority grassland bird productivity on airports in Massachusetts, New Jersey (Lakehurst), and Maryland, and use of airfields by species that pose a high strike-risk to aircraft. He is project manager on a NFWF funded project focused on coastal impoundments, coordinating the data mining and analysis efforts for the development ranking based on vulnerability, and ecological and societal value. Mike provides analytic and GIS support to many of our research and monitoring efforts.

*Ms. Dale Rosselet, MA*, Vice-president for Education and Outreach. Dale has extensive experience teaching pre-school, elementary, and secondary grades in both formal and non-formal situations. As Vice President for Education she oversees all statewide and center-based nature, ecology and sustainability education programming for the organization. She chairs the governor-appointed New Jersey Commission for Environmental Education and is past President of the Alliance for New Jersey Environmental Education, NJ's statewide professional organization for environmental educators. Ms. Rosselet has been recognized with several awards including the 2008 Garden State Woman of the Year Environment Award, the 2012 Education Award from Conserve Wildlife Foundation of New Jersey and the 2013 Lifetime Achievement award from the Alliance for New Jersey Environmental Education. Over the last 15 years, she also has overseen grant awards from the EPA, NOAA, NPS and USFWS for various education and outreach programs.

*Kelly M Wenzel, MCRP*, Education Project Director – Urban Education & Outreach. Since she joined NJA in 2009, Kelly has been designing and implementing outreach programs for NJ Audubon. Her priority focus is to work in urban communities throughout NJ with students and teachers who may not have the opportunity to travel to places traditionally associated with nature study. Through block walks and neighborhood exploration, Kelly teaches students and teachers about their local habitats and works to create a "sense of place". She has been involved in environmental education since 1996 when she worked as an AmeriCorps Member with Isles, Inc. in Trenton and then moved on to Greater Newark Conservancy and the Essex County Environmental Center where she was the Program Director. She was awarded the "Outstanding Environmental Educator" award in 2015 from the Alliance for New Jersey Environmental Education and the "Partnership Award" from the East Orange YMCA in 2014.

*Gretchen Whitman*, Sanctuary Director. Gretchen has served since 1998 as the Sanctuary Director of NJA's Nature Center of Cape May, a leading environmental education facility in located in the City of Cape May and situated New Jersey's outer coastal plain. Her primary role is to oversee the implementation of environmental education programming focusing on the coastal ecosystems to people of all ages although emphasizing primarily schoolchildren and their families. In addition to the day-to-day operation of running programs and operating a nature center with exhibits, classrooms, aquariums and trails, she also coordinates special projects. She currently serves as the lead PI on a NOAA Marine Debris funded project entitled - Cape May and Beyond: Ghost Trap removal in Delaware Bay, Cape May Reef and southern coastal bays expands NJ's success into new regions.

*John Cecil, MSc, Vice-President for Stewardship.* John provides leadership and oversight to NJA's stewardship related activities including the active management, restoration and recovery of wildlife habitat. Specifically, this involves managing a department of ten staff with an annual operating budget of approximately \$1.2 M. Funding of this work is derived from a diverse portfolio of grants, contracts, and individual gifts. Core areas of work involve habitat management for birds and other wildlife, forest stewardship planning and implementation, the use of conservation practices on agricultural lands, restoration of wetland habitats, grassland management, management of NJA's network of sanctuaries (approx. 4,000 acres) and providing technical assistance to public and private land owners. John's team provides leadership to NJA's Corporate Stewardship Council, comprised of 20 leading companies from throughout the State. Since John joined NJA in 2011, the organization has played a leading role in efforts to restore Golden-winged Warblers to NJ, return Northern Bobwhite to the Pinelands and is leading efforts to address water quality and wildlife habitat improvements on agricultural land throughout the state. Prior to joining NJA, John was the national Director of the Important Bird Areas Program for the National Audubon Society, engaging in conservation issues across the U.S. and the hemisphere. He has served as Chair of the U.S. Shorebird Council and Council member of the Bahamas National Trust.

*John Parke, Stewardship Project Director--North Jersey.* John has been with NJA since 2005 helping to enroll a multitude of farmers, landowners, and corporate entities into various conservation incentive programs. John also designs and assists with implementation of numerous habitat restoration projects in the northwestern part of the state on both private and public lands. He has earned various awards for his work, including the NJ Governor's Environmental Excellence Award for the healthy ecosystem category and the land conservation categories; Soil and Water Conservation Society's ecological excellence award; and the NJ Section American Water Resources Association's excellence in water resources management award.

*Don Donnelly, Stewardship Project Director—Forester.* Don oversees the forestry initiatives being undertaken by NJA throughout the state, with a focus on ecological forestry at a landscape scale. Don had 17 years of experience working as a forester for several government agencies before coming to NJA in 2011, including the U.S. Forest Service Northern Research Station. Don's work has included all aspects of wildlife and natural resource habitat improvements, including traditional forest inventory measurements, invasive species management, wetland and stream restoration projects, wildlife habitat enhancement, and timber management. Don also holds credentials as a NJ Approved Forester and NJ Certified Tree Expert, and he is certified as a Wildland Firefighter by the National Wildfire Coordinating Group.

*Kristen Meistrell, Stewardship Project Director—South Region.* Kristen has been with NJA since 2012, working closely with the Stewardship team to create, restore, and manage habitat. She oversees stewardship activities in Southern New Jersey and works with private and public landowners to develop and implement conservation plans that focus on a variety of habitats. Before joining New Jersey Audubon, she worked for the New Jersey Division of Fish and Wildlife's Endangered and Nongame Species Program, studying rare wildlife species. Kristen has experience working with radio telemetry and GIS technology as well as habitat assessment and habitat management projects.

*Brittany Dobrzynski, Stewardship Specialist-South Region.* Brittany works with the Stewardship team on various habitat management and restoration projects on public and private lands. She works closely with local farmers and the Natural Resources Conservation Service to promote agricultural best

management practices for soil and water conservation. Brittany has worked for the New Jersey Division of Fish and Wildlife's Endangered and Nongame Species Program, monitoring protected beach-nesting birds, and each year she serves on a small research team in the National Park Service's annual box turtle survey on Fire Island National Seashore.

**For academic institutions, include a description of student demographics and the institution's status as a minority-serving institution (e.g., as defined by the U.S. Department of Education).**

NA

**Description or list of current and past research, technical assistance, and educational services supported through federal financial assistance awards that are of relevance to federal land management, environmental, and research agencies that will be engaged in CESU activities.**

Completed projects

*Beach Restoration at Southern Seven Mile Island, New Jersey.* 2014 – 2017. **Specific objectives:** (1) improve habitat suitability for beach-nesting birds and roosting shorebirds through restoration, targeted management activities (e.g., predator control) and community engagement through a social marketing campaign, (2) increase coastal resiliency for the Borough of Stone Harbor through enhancement of existing ACOE dune system and (3) develop a plan using innovative methods for continued maintenance of the beach restoration as a long-term community resiliency strategy for the Borough (and replication by other communities) by utilizing an adaptive management framework through beach and biological monitoring. Project is collaboration between NJA, The Wetlands Institute, Conserve Wildlife Foundation, Richard Stockton College's Coastal Research Center, LJ Niles and Associates, the Borough of Stone Harbor, NJ Division of Fish and Wildlife and **US Fish and Wildlife Service**. **Funding source: US Department of Interior** and administered by National Fish and Wildlife Foundation. **Funding:** Two-year budget ~\$1,250,000.

*Coastal Impoundment Vulnerability and Resilience Assessment.* 2014 – 2017. **Specific objectives:** (1) categorize all Northeastern impoundments in terms of their importance in reducing the risks of inundation to adjacent communities, (2) characterize the ecological value of Northeast region impoundments, (3) assess their vulnerabilities to future storm events and sea level rise and (4) identify restoration options that will enhance the resilience of vulnerable impoundments to sea level rise and future storm events. Project is collaboration between NJA, National Wildlife Federation, Conservation Management Institute at VA Tech and the US Fish and Wildlife Service. **Funding source: US Department of Interior** and administered by National Fish and Wildlife Foundation. **Funding:** Two-year budget ~\$470,000.

*Cape May and Beyond: Ghost Trap removal in Delaware Bay, Cape May Reef and southern coastal bays expands NJ's success into new regions.* 2016-2017. **Specific objectives:** (1) to achieve rapid and highly efficient removal of a huge number (2,200) of DFTs from estuarine habitat; (2) to complete of NOAA-based DFT removal throughout NJ's entire coastal bays system; (3) to promote active participation by the crabbing community that will result in the prevention of 1,000 new DFTs during the project period; and 4) to deepen and strengthen existing

partnerships between the state, private industry, non-profit organizations, academia, and the commercial and recreational fishing industries. NJA is uniquely positioned to reach 30,000+ visitors, volunteers, and general public through education and engagement in DFT/estuarine health issues. **Funding source: NOAA Marine Debris Program. Funding:** One-year budget ~\$336,509.

*Integrating citizen science and community college student efforts in assessing forest health in central New Jersey.* 2014-2016. **Specific objectives:** (1) involve Community College students and citizen scientists in conservation issues of civic importance; (2) document the abundance and distribution of forest breeding birds and the quality of their habitat; (3) make recommendations for improving forest health. Project is collaboration between NJA, Raritan Valley Community College and Science Education for New Civic Engagements and Responsibilities, Informal Science Education (SENCER-ISE). **Funding source: National Science Foundation administered through SENCER. Funding:** Three-year budget ~\$50,000.

*Forestry Technical Assistance Agreement.* 2013 - 2016. **Specific objectives:** (1) provide forestry training to NRCS staff throughout New Jersey, to increase their understanding of forest management planning and forestry practices that are commonly used by private landowners; (2) provide technical assistance to NRCS staff planners who are contracting forestry work with private landowners under federal farm bill programs, including providing assistance with landowner contract development and forestry activity inspections and certifications; (3) provide forestry expertise to NRCS senior state office personnel who are tasked with evaluating and revising New Jersey's NRCS practice standards for forest management activities; (4) produce a series of technical documents explaining forest management for distribution to private landowners. **Funding Source: USDA - Natural Resources Conservation Service (USDA - NRCS). Funding:** 39,000.00 over 3 years.

*Expanding the Cape May Habitat Restoration Task Force (CWMA).* 2014 – 2015. **Specific objectives:** (1) restore wildlife habitat by controlling non-native invasive plants within critical areas on the Cape May Peninsula, an area designated a Globally Significant Important Bird Area; (2) expand the effectiveness and reach of our CWMA with the help of the Pulling Together Initiative, as well as other funding sources; (3) increase the number of acres restored by conducting on-the-ground management activities, attracting participation from all 16 municipalities in Cape May County, increasing the number of partner organizations in support of the Task Force, and offering various meetings, workshops, volunteer events, training sessions, and printed educational materials; (4) prevent the spread of invasive plants by encouraging nurseries and garden centers to limit the sale of invasive plants and by working with the Cape May County Municipal Utility Authority to develop proper methods of invasive plant disposal. **Funding Source: US Fish and Wildlife Service and US Forest Service** administered by National Fish and Wildlife Foundation (NFWF) Pulling Together Initiative. **Funding:** \$33.550.00

*Bog Turtle Habitat Management and Enhancement Project.* 2014 – 2015. **Specific objectives:** (1) improve freshwater wetlands and their associated upland ecosystems to enhance habitat for the federally threatened, state endangered bog turtle (*Glyptemys mühlenbergii*) as well as for other rare, common, or imperiled species; (2) improve water and soil quality as well

as wildlife-related economic and recreational benefits in the Delaware Estuary region; (3) monitor success of restoration activities through radio telemetry and survey efforts.

**Funding Source: US Fish and Wildlife CFDA Program. Funding: \$10,000.00**

*Continuing Conservation Beyond Conservation. Developing Collaborative Forest Stewardship Plans for Two of the NJ Highlands Most Significant Forest Tracts. 2011 - 2015. Specific objectives:*

(1) collected detailed forest inventory data on over 12,000 acres of forestland in the NJ Highlands, for the purpose of developing landscape level management approaches for these tracts; (2) engaged various stakeholders and formed an outreach strategy to build collaborative planning to meet landscape level objectives; (3) worked with state and local government entities to foster transparent methods for land planning as a model for NJ; (4) administered the beginning implementation of these landscape level plans, and guided the subject properties through the Forest Stewardship Council (FSC) certification process, becoming the first group of FSC certified properties in NJ. **Funding Source: United States Department of Agriculture - Forest Service (USDA-FS). Funding: 228,000.00 over 4 years.**

*Assessing bird and bat migration patterns in the vicinity of a proposed bridge replacement project using a dual marine radar system. Dates: Spring/fall 2005. Description: As part of an EIS, conducted migration monitoring at in Cape May County, NJ using a dual marine radar system. Purpose was to evaluate potential effects of small suspension bridge on bird/bat migration in area of continental importance to migrants. Specific objectives were to (1) quantify passage density/rates of birds and bats flying through the study sites and investigate nightly and seasonal temporal patterns of movement; (2) quantify altitudes of birds/bats relative to project area height; (3) determine flight tracks; (4) investigate meteorological conditions that may affect passage density/rates, altitudinal distribution and flight direction. Funders: Federal Highway Administration and Cape May County, NJ under contract with PB World, Inc. Funding: ~\$110,000.*

*Assessing bird and bat migration in the Appalachian Mountains of the Mid-Atlantic region using a dual-marine radar system. Dates: Spring/fall 2006. Description: Conducted migration monitoring at ridge top sites in Maryland, Virginia, and West Virginia using a dual marine radar system. Specific objectives were to (1) quantify passage density/rates of birds and bats flying through the study sites and investigate nightly and seasonal temporal patterns of movement; (2) quantify altitudes of birds/bats relative to project area height; (3) determine flight direction; (4) investigate meteorological and topographical conditions that may affect passage density/rates, altitudinal distribution and flight direction. Funding Source: US Geological Service, US Fish and Wildlife Service, MD Department of Fish and Wildlife, VA Department of Game and Inland Fish, WV Department of Natural Resources. Funding: ~\$160,000.*

*Assessing bird and bat migration patterns in the Gulf of Maine using a dual-marine radar system. Dates: Fall 2010, 2012. Description: Assessing bird/bat movement patterns and flight dynamics using a dual marine radar system. Objectives: (1) quantify passage density/rates of birds and bats flying through the study sites and investigate diurnal, nocturnal and seasonal temporal patterns of movement; (2) quantify altitudes of birds/bats relative to project area height; (3) determine flight direction; (4) investigate meteorological conditions that may affect passage density/rates,*

altitudinal distribution and flight direction. **Funder: Department of Energy** through a grant to the University of Maine. **Funding:** ~\$450,000.

*Effects of large-scale wind power generation on migratory birds and bats in the mid-Atlantic and New England regions.* Multiple projects conducted from 2007 – 2013 in NJ, VA, WV, MD, NY, RI and ME. **Specific objectives:** (1) quantify passage density/rates of birds and bats flying through the study sites and investigate diurnal, nocturnal and seasonal temporal patterns of movement; (2) quantify altitudes of birds/bats relative to project area height; (3) determine flight direction; (4) investigate meteorological conditions that may affect passage density/rates, altitudinal distribution and flight direction. **Funding source: US DOE, USGS, US Fish and Wildlife Service,** Virginia Department of Game and Inland Fish, Maryland Division of Fish and Wildlife, West Virginia Division of Natural Resources, NY State Energy Research Development Authority, State of Rhode Island/University of Rhode Island, NJ Board of Public Utilities/Atlantic County Utilities Authority. **Funding:** ~\$150,000 annually during project years.

*Fuels Reduction and Biomass Utilization and Marketing in the NJ Pinelands.* 2009 - 2013. **Specific objectives:** (1) create a regional demonstration project to restore ecological functioning in the NJ Pinelands while reducing hazardous fuel loads at the urban-wildland interface; (2) demonstrate a synergy between forest management for non-commodity values such as fuel reduction and rare species management, while improving market capacity for low grade wood product harvesting that is often associated with meeting those goals. **Funding Source:** United States Department of Agriculture, Forest Service (USDA-FS). **Funding:** 80,000.00 over 3 years.

*Conservation Innovation Grant. New Jersey Pine Barrens Ecological Forest Management.* 2009 - 2013. **Specific objectives:** (1) explore opportunities for alternative forest products generated as by-products of ecological forest management practices in the NJ Pinelands National Reserve; (2) develop cost effective mulch alternatives for use in local nurseries and fruit production using low-grade chip residues harvested in the pinelands. Distribute mulch to producers for testing and summarize effectiveness; (3) collaborate with a local business to develop a product-line of livestock bedding using low-grade yellow pine; (4) develop a value-added product line of bird houses and feeders using Atlantic white cedar materials harvested and processed in the pinelands; (5) obtain approval for producers of locally harvested wood products to be endorsed under the NJ Department of Agriculture's "Jersey Grown" label. **Funding Source:** USDA - Natural Resources Conservation Service (USDA - NRCS). **Funding:** 75,000.00 over 3 years.

*Grassland Bird Productivity on Military Airfields in the Mid-Atlantic and Northeast Regions.* 2010-2012. **Specific Objectives:** (1) characterize nesting habitat, phenology, and biology of two target species grasshopper sparrow (*Ammodramus savannarum*) and eastern meadowlark (*Sturnella magna*), species of conservation concern in the Northeast and Mid-Atlantic regions at three sites, especially in relation to mowing history; (2) identify the effects of mowing and vegetation structure on the nest survival of these species. Project was collaboration between NJA, Lakehurst section of Joint Base McGuire-Dix-Lakehurst, Westover Air Reserve Base, and Patuxent River Naval Air Station. **Funding source: Department of Defense-Legacy Program.** **Funding:** Three-year budget ~\$450,000.

*Avian Response to Grassland Management Around Military Airfields in the Mid-Atlantic and Northeast.* 2007-2009. **Specific Objectives:** (1) generate avian density estimates, delineating habitat placement, and characterizing habitat throughout the fall migration, spring migration, and breeding seasons; (2) identify factors affecting avian use of airfields at multiple spatial and temporal scales; (3) support development of sound management plans for maintenance of grass height that benefits grassland birds and minimizes use by problematic bird species for each site and for the region. Project was collaboration between NJA, Lakehurst section of Joint Base McGuire-Dix-Lakehurst, Westover Air Reserve Base, and Patuxent River Naval Air Station. **Funding source: Department of Defense-Legacy Program. Funding:** Three-year budget ~\$310,000.

*Coordinated Weed Management at Cape Island IBA.* 2010 – 2011. **Specific objectives:** (1) coordinate partners to focus on invasive species management at Cape Island IBA by forming a Coordinated Weed Management Area (CWMA); (2) facilitate invasive species control and habitat restoration on approx. 50 ac of early successional and forested habitat within Cape May Point State Park; (3) conduct outreach to local landowners/stakeholders about invasive species ID and control through an informational workshop, brochure and press article; (4) conduct volunteer trainings to encourage awareness of invasive species issues, participation in restoration events and monitoring of invasive plants. **Funding Source: US Fish and Wildlife Service and US Forest Service** administered by **National Fish and Wildlife Foundation (NFWF)**. Pulling Together Initiative. **Funding:** \$39,998.56

*Improving the Design and Method of the North American Breeding Bird Survey for Grassland Landbirds in the Northeast.* 2009-2010. NJA, while working on a project funded through NJ State Wildlife Grants to monitor the success of Landowner Incentive Programs in improving grassland bird habitat, partnered with the US Fish and Wildlife Service in this project. **Specific Objectives:** (1) refine survey sampling design and point-count methodology for monitoring grassland birds through volunteer and staff effort to evaluate the success of LIP and other management programs; (2) evaluate the efficacy of site management by assessing benefit to wildlife targets Partners included US Fish and Wildlife Service, NJA, Audubon NY. **Funding source: US Fish and Wildlife Service. Funding:** Two-year budget ~\$60,000.

*Risk factors for West Nile Virus: the role of biodiversity in the ecology of hosts, vectors and humans.* 2008-2010. **Objectives:** To test how biodiversity of forested urban wetlands affects diversity of birds and mosquitoes, and therefore a potential dilution factor, and how diversity affects human behavior with respect to exposure to West Nile Virus disease risk. **Funding source:** US EPA, subcontract to NJA from Rutgers University. **Funding:** Three-year budget; funds to NJA ~\$50,000.

*Breeding Bird Surveys for Gateway National Recreation Area.* 2005-2007. **Specific Objectives:** (1) determine abundance and distribution patterns of passerines and secretive marsh birds during the breeding season; (2) determine patterns of species diversity within particular species groups; (3) investigate habitat and site differences that underlie avian abundance,

distribution, and diversity patterns. **Funding source:** National Park Service. **Funding:**~\$55,000

### Ongoing projects

*Shorebird use of shrimp aquaculture sites in NE Brazil and the potential for contaminants exposure.* 2015 – 2018. **Specific objectives:** (1) quantify how shorebirds use shrimp farms during migration and wintering periods (e.g., foraging, roosting) and possible differential use by age class or sex; (2) quantify contaminant profiles in shrimp pond sediments during different phases of production (e.g., growing, harvesting); (3) quantify contaminant loads in shorebirds using shrimp ponds during various phases shrimp production and at different times of year; (4) use our results to help develop guidance documents that can be used to decrease potential adverse effects of shrimp aquaculture on migratory shorebirds. Project is a collaboration with Aquasis (Brazilian conservation NGO), Fundação Mammíferos Aquáticos (Brazilian conservation NGO) and CEMAVE (Bird management and conservation agency of Brazil federal government). **Funding source:** US Fish and Wildlife Service, Disney Conservation Fund. **Funding:** Two-year budget ~\$450,000.

*Optimizing conservation outcomes and investments for Semipalmated Sandpiper using full life cycle migratory network models.* 2016 – 2018. **Specific objectives:** Our goal is to develop a spatially explicit, full life-cycle model to assess the relative contribution of drivers that underlie SESA population declines. The model will provide insight into when during the annual cycle Atlantic Flyway SESA are subject to the most detrimental threats and will be a tool for developing conservation and management strategies that abate declines and for making decisions about allocating resources to implement these strategies. Demographic parameter estimates (e.g., reproductive success, survivorship) from both breeding and nonbreeding periods, and connectivity among populations throughout the annual cycle (i.e., spatial linkages between specific wintering, migrating and breeding populations), are essential components of the model. The latter is especially important for SESA because they have extensive breeding and wintering ranges, and use several major staging areas during migration. **Funding source:** National Fish and Wildlife Foundation, **US Fish and Wildlife Service.** **Funding:** Two-year budget ~\$207,000.

*Assessing population status, structure and conservation needs for Semipalmated Sandpiper (SESA, *Calidris pusilla*) in South America.* 2008 – present. **Specific objectives:** (1) assess the abundance and distribution of the species along South America's northern coast during southbound migration and winter; (2) determine spatial relationships among important wintering, migration staging and breeding areas and characterize population structure and demographic properties of SESA wintering in northern South America; (3) identify, investigate and if possible address threats that adversely affect population viability; (4) collaborate with South American biologists and resource managers to develop and implement research, monitoring and conservation plans for the species. **Funding source:** **US Fish and Wildlife Service,** Disney Worldwide Conservation Fund, Western Hemisphere Shorebird Reserve Network, NJ Division of Fish and Wildlife, NJA (matching funds). **Funding:** ~\$200,000 annually.

*Ecology, physiology and conservation needs for Semipalmated Sandpiper and other soft-sediment associated shorebirds at a major migration stopover site, Delaware Bay.* Dates: 2000 – present.



**Specific objectives:** (1) characterize physiological condition and weight gain potential during stopover periods; (2) determine stopover duration and relationship to physiological condition; (3) investigate diet and habitat use of SESA during stopover periods; (4) characterize the species' demographic properties and population structure; (5) assess contaminant loads; (6) develop conservation strategies that insure long-term population viability of the species. Funders: NJ Division of Fish and Wildlife, National Fish and Wildlife Foundation, NJA. **Funding source:** NJ Division of Fish and Wildlife, US Fish and Wildlife Service, National Fish and Wildlife Foundation, DuPont – Clear into the Future, NJA (matching funds). **Funding:** ~\$100,000 annually.

*Developing and implementing conservation strategies for Semipalmated Sandpiper (Calidris pusilla) in its primary wintering area – Suriname, French Guiana, Brazil.* 2008 – present. Activities in this project will help achieve flyway-wide goals and objectives of the Atlantic Flyway Shorebird Initiative's plan to address illegal and poorly regulated shorebird hunting in the Caribbean and northern South America. This project addresses the key actions in the plan to strengthen law enforcement and monitor compliance and improve outreach and communication. **Specific objectives:** (1) build law enforcement capacity that increases efforts to control illegal shorebird hunting in Suriname. Some examples are to provide fuel for vehicle patrols, funds to support vehicle maintenance and funds to support daily food and lodging expenses for multi-day activities; (2) develop and implement a survey of hunters to better understanding their demographics, hunting methods and effort and overall take; (3) develop and implement a hunter education program that provides information about hunting regulations, species identification and the hemispheric importance of Suriname to migratory shorebird populations. **Funding source: US Fish and Wildlife Service, US Agency for International Development. Funding:** ~\$65,000/year.

*Healthy Land and Waters Grants for Soil and Water Conservation.* 2015-2019. **Specific objectives:** minimize agricultural impacts on water resources within key focus areas of the Kirkwood-Cohansey Aquifer and the Delaware River Watershed through (2) delivering technical and financial assistance to willing landowners to implement best management practices addressing (3) key resource concerns through partnership with NRCS and (4) maintaining and creating additional wildlife habitat on working lands while (5) providing incentive monies to the landowners to do so with reduced financial risk. This ongoing project has allocated funds to agricultural producers to improve over 1,100 acres in its first two years of implementation. This work is further complemented by partners through the Delaware River Watershed Initiative including the William Penn Foundation, Open Space Institute and the Academy of Natural Sciences. **Funding source: National Fish and Wildlife Foundation. Funding:** ~\$250,000 over 4 years.

*Overcoming Obstacles. Creating Golden-winged Warbler (GWWA) Habitat.* 2013 – 2016 *Overcoming Obstacles II. Creating GWWA Habitat.* 2017 - 2018. **Specific objectives:** (1) provide forestry assistance to landowners who are under Environmental Quality Incentives Program (EQIP) contracts with NRCS to implement habitat improvements for the Golden-winged warbler throughout New Jersey; (2) host landowner outreach workshops to promote management for GWWA; (3) host workshops for professional resource managers relating to GWWA management; (4) prepare management plans and administer field projects related to GWWA

habitat work; (5) retain harvesting contractors and providing contract oversight / administration for private landowners engaging in GWWA habitat improvements; (6) provide forest management expertise to NRCS staff and NJ Division of Fish & Wildlife, Endangered & Nongame Species staff relating to vegetation management for GWWA; (7) conduct surveys for Golden-winged Warbler at managed sites and other appropriate habitats throughout northern New Jersey to assess population status and species response to management activities.

**Funding Source: National Fish and Wildlife Foundation (NRCS/USDA)** and Public Service Enterprise Group (PSEG). **Funding (NFWF):** 235,000.00 over 5 years.

*Avian population distribution and health in the NJ Meadowlands.* 2017-2018. **Specific Objectives:** (1) conduct surveys to determine the abundance and distribution of foraging long-legged colonial waterbirds; (2) to provide information about site and habitat use, and foraging success and diet for this species group. **Funding source: US Fish and Wildlife Service.** **Funding:** ~\$50,000.

*Invasive Plant Management and Early Detection/Rapid Response on Private Lands.* 2017 – 2019. **Specific objectives:** (1) control non-native plants displacing habitat for federally-listed species; (2) early Detection/Rapid Response of kudzu on private lands; (3) control non-native invasive plants to enhance forestry practices on private lands; (4) improve pine barrens savannah habitat through prescribed fire and by controlling non-native invasive plants. **Funding Source: US Fish and Wildlife Partner's for Wildlife Program.** Funding: \$49,500.00

*Lakehurst Grassland Bird Survey.* 2009- present. **Specific objectives:** systematic field surveys of grassland birds during the breeding season through citizen science volunteer effort; management of the database on distribution and occupancy of grassland birds at the Lakehurst section of Joint Base McGuire-Dix-Lakehurst. Collaboration with Lakehurst staff. **Funding source: Sikes Act (DoD/ US Fish and Wildlife Service).** **Budget:** ~\$2,500 per year

**Description of current formal agreements and informal relationships with federal agencies that are of relevance to federal land management, environmental, and research agencies that will be engaged in CESU activities.**

*Cooperative Agreement with US Fish and Wildlife Service through the Partners for Fish and Wildlife program.* 2014-2024. Agreement related directly to execution and long-term maintenance realized through the project titled "*Beach Restoration at Southern Seven Mile Island, New Jersey.* 2014 – 2017." **Specific objectives:** (1) improve habitat suitability for beach-nesting birds and roosting shorebirds through restoration, targeted management activities (e.g., predator control) and community engagement; (2) increase coastal resiliency for the Borough of Stone Harbor through enhancement of existing ACOE dune system; (3) develop a plan using innovative methods for continued maintenance of the beach restoration as a long-term community resiliency strategy for the Borough (and replication by other communities) by utilizing an adaptive management framework through beach and biological monitoring.

*Cooperative Agreement in partnership with the Natural Resources Conservation Service (NRCS).* 2015-2020. **Specific objectives:** (1) improve soil health and water quality throughout the Kirkwood-Cohansey focal area by providing technical assistance to landowners and agricultural

producers throughout southern New Jersey; (2) increase participation in NRCS programs by organizing and conducting focused outreach efforts while (3) planning and installing conservation practices in accordance with NRCS program policy, standards and specifications. This ongoing partnership has been renewed for a second cooperative agreement and is further supported through funding from the National Fish and Wildlife Foundation (NFWF) whose support will be outlined below. **Funding Source: Natural Resources Conservation Service.**  
**Funding:** \$90,000.00 over 5 years.

*Cooperative agreement with National Park Service for nesting bird monitoring at three restored beach habitats.* 2017-2022. After Hurricane Sandy, beach nourishment was conducted at several locations to improve resilience and enhance beach-nesting bird habitat. Program objectives are to provide a regional evaluation of beach nourishment as a management tool for resilience and evaluate the efficacy of beach nourishment to meet management needs at beach and dune restoration projects within the Mid-Atlantic region. **NJA-specific objectives:** (1) improve understanding of ecological resilience bird nesting on nourished beaches within the mid-Atlantic region; (2) to enhance natural resource stewardship of shore ecosystems by partner agencies and other federal, state and private conservation land management agencies.  
**Funding source: National Fish and Wildlife Foundation award to National Park Service.**  
**Budget:** ~134,000 over five years.

NJA is willing to accept a limited overhead rate of 17.5% and cost items to which the rate is applicable for activities conducted through the CESU, including research, technical assistance, and educational services (this overhead rate applies to the entire institution/organization for CESU activities).

Note: NJA does not have an approved FICRA so charges the allowable *de minimus* rate of 10% for overhead.

Dr. David Mizrahi, VP for Research/Monitoring, NJ Audubon, Center for Research & Monitoring 600 Route 47 North, Cape May Court House, NJ 08210, Ph: 609.400.3835, Fax: 609.861.1651, is designated as technical representative to serve on the CESU steering committee, participate in CESU annual/semi-annual partner meetings, and facilitate internal and external communication, promotion, and response to CESU correspondence and administrative actions (e.g., announcements, new member applications, processing agreements/amendments, five-year reviews).

We agree to relay agency-specific research, technical assistance, and educational needs and associated funding opportunities to other institutional/organizational members and commit institutional resources in a binding multi-year federal cooperative and joint venture agreement.

Signature

A handwritten signature in black ink, appearing to read "David Mizrahi", is written over a horizontal line.

David Mizrahi, PhD  
VP, Research/Monitoring  
NJ Audubon, Center for Research & Monitoring  
600 Route 47 North  
Cape May Court House, NJ 08210



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

New Jersey Field Office  
4 E. Jimmie Leeds Road, Suite 4  
Galloway, New Jersey 08205  
Tel: 609/646 9310  
[www.fws.gov/northeast/njfieldoffice/](http://www.fws.gov/northeast/njfieldoffice/)

Judith Swift  
124 Coastal Institute  
URI Bay Campus  
Narragansett, Rhode Island 02882

DEC 1 2017

Dear Ms. Swift,

I am writing on behalf of the U.S. Fish and Wildlife Service's (Service) New Jersey Field Office (NJFO) in support of New Jersey Audubon's (NJA) application for membership in the Cooperative Ecosystem Studies Unit (CESU) for the North Atlantic Coast. NJA has had a long and productive relationship with the NJFO and the Service in carrying out work that is not only essential for the protection of natural resources over the long-term, but also provides tangible benefits to the public by improving coastal resiliency and community engagement.

NJA is partnering or has partnered with the Service on several projects, including:

- A Cooperative Agreement with the Partners for Fish and Wildlife program for the period from 2014-2024 to conduct beach restoration at Southern Seven Mile Island in Stone Harbor Point, New Jersey. This project seeks to improve habitat suitability for beach-nesting birds and roosting shorebirds through restoration, targeted management activities (e.g., predator control), and community engagement; increase coastal resiliency for the Borough of Stone Harbor through the enhancement of the existing U.S. Army Corps of Engineers' (USACE) dune system; and develop a plan using innovative methods for the continued maintenance of the beach restoration as a long-term community resiliency strategy for the Borough (which could be replicated by other communities) by using an adaptive management framework for beach and biological monitoring.
- A project entitled "Coastal Impoundment Vulnerability and Resilience Assessment", which will categorize the importance of all impoundments in the Northeast in terms of flood risk reduction, vulnerability to future storm events, ecological value, and societal importance. The Service is partnering with NJA in using Integrated Waterbird Management and Monitoring data to develop ecological rankings for these sites.
- Working to achieve the flyway-wide goals and objectives of the Atlantic Flyway Shorebird Initiative's plan by investigating the ecology, physiology, and conservation needs for shorebirds, in particular the semipalmated sandpiper (*Calidris pusilla*). This long-term project is conducted at both the Delaware Bay spring migration stopover site and wintering areas in South America. The work includes determining shorebird physiological condition and habitat use during stopover and at the wintering grounds; characterizing demographic properties and population structure; assessing contaminant

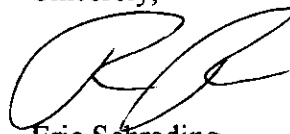
loads; building law enforcement capacity that increases efforts to control illegal shorebird hunting in South America; and developing conservation strategies that ensure the long-term population viability of these species.

- Conducting weed and invasive species management in Cape May in support of the Cape May Habitat Restoration Task Force. This work includes facilitating invasive species control and habitat restoration; outreach to local landowners and stakeholders about invasive species identification and control; and training volunteers to conduct restoration activities.
- Conducting invasive plant management on private lands. This work includes control of non-native plants that usurp habitat for federally-listed species; early detection and rapid response in controlling kudzu; control of non-native invasive plants to enhance forestry practices on private lands; and improving New Jersey Pine Barrens savannah habitat by using prescribed fire to control invasive non-native plants.
- Providing assistance in developing intertidal and nearshore structural aquaculture projects that are protective of foraging red knots (*Calidris canutus*). This involves identifying levels of red knot use to assist with the siting and permitting of oyster farms; preparing reviews regarding the potential impacts of aquaculture on red knots; providing input on the Service's Programmatic Biological Opinion (PBO) to avoid and minimize adverse effects to red knots; and serving on a Stakeholder Committee to advise the Service, the USACE, and the New Jersey Division of Fish and Wildlife on adaptive management under the PBO.

In all of these projects, NJA has consistently provided objective and scientifically sound products while practicing judicious fiscal management. The high-quality, professional technical assistance provided to the NJFO has helped to carry out the Service's mission to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people. The Service strongly supports NJA's application for admission to the North Atlantic Coast CESU.

If I can be of further assistance in this regard, please contact me at 609-382-5272.

Sincerely,

  
Eric Schradling  
Field Supervisor



**DEPARTMENT OF THE AIR FORCE  
87TH AIR BASE WING (AMC)**



MEMORANDUM TO: Cooperative Ecosystem Studies Unit (CESU), North Atlantic Coast

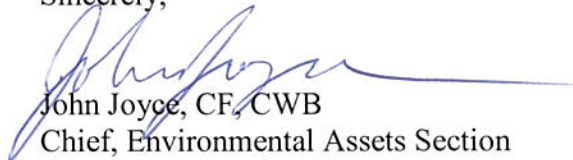
FROM: John Joyce, Chief, Environmental Assets Section for Joint Base McGuire-Dix-Lakehurst (JB MDL)

SUBJECT: New Jersey Audubon Application

1. I am writing this memo in support of the New Jersey Audubon (NJA) application to join the North Atlantic Coast region of the CESU national network.
2. NJA has had a long and productive relationship with JB MDL, and before that the Naval Air Engineering Station Lakehurst (NAES). NAES was merged into a tri-service joint base in 2009 when McGuire Air Force Base, Ft. Dix Army Base and NAES were consolidated into one base under Air Force ownership.
3. NAES first worked with NJA in 2003 when NJA trained volunteers took over the annual grassland bird survey that had previously been done by other volunteers. For a small administrative fee, NJA has provided consistent, professional level survey results for these grasslands for the past 15 years. It documents the population fluctuations on over 1300 acres of managed grasslands which host at least four state listed Threatened and Endangered species.
4. NJA has provided trained volunteers to accomplish nightjar surveys on the Lakehurst section of JB MDL on a yearly basis since 2012. The declining populations of Chuck-will's-widow, Whip-poor-will and Common Nighthawks have caused concern in the northeastern US and NJA is helping JB MDL to document the locations on base which are used by these species.
5. NJA completed a forest bird survey under contract to NAES during 2005-06. This report was the first comprehensive full year survey to ever document presence/absence of all bird species on NAES.
6. In 2007, NJA published a study done under contract with NAES titled "Distribution and Habitat Relationships of Breeding Birds on NAES 1999-2006". This report analyzed how documented sightings of grassland birds during annual surveys related to the various different native grass stands in the NAES grasslands over an eight year period. One major goal was to determine whether the stands of "invasive" African Love grass which were planted decades ago had lower densities of nesting birds than stands of native grasses.

7. The Department of Defense (DoD) Legacy program is a national effort in which interested groups submit competitive proposals annually for various natural resources research projects throughout the world on DoD installations. NJA has completed two multi-year projects under the Legacy program. The first, "Avian Productivity on NAES", was published in 2009. The second Legacy project was a multi-state study over three years that included NAES Lakehurst, Naval Air Station Patuxent River in Maryland and the Westover Reserve Air Base in Massachusetts. "Avian Response to Grassland Management Around Military Airfields in the Mid-Atlantic and Northeast" was published in May, 2012. Both studies were well received in the wildlife management community and provided valuable information to better guide grassland bird management in the northeastern US.
8. NJA continues to be a valuable asset to the JB MDL natural resources program. In addition to the ongoing annual nightjar and grassland bird surveys, NJA stepped in on very short notice to provide a grassland bird survey on the McGuire airfield during the 2016 breeding season. It was the first formal survey on this airfield using standardized protocols in decades.
9. With such a proven track record of outstanding assistance and cooperation with the natural resources program on JB MDL, there is no other more deserving organization than New Jersey Audubon to join the North Atlantic Coast CESU. They understand the intricacies and complications of executing natural resources projects on military bases, and their history of combining professional expertise with reasonable pricing and on-time contract deliverables makes NJA an ideal candidate to join CESU.
10. Please extend to them every effort and courtesy when reviewing their application so they can join CESU and allow DoD to access their considerable experience and talents.

Sincerely,



John Joyce, CF, CWB  
Chief, Environmental Assets Section  
Joint Base McGuire-Dix-Lakehurst