

2013 Long Island Natural History Conference

Planning Committee

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The **Long Island Nature Organization** was established in 2012 to support education and research about the natural history of Long Island. Projects include:

- creating a web-based clearing house for information about Long Island's flora and fauna to be shared by Long Island naturalists, both professional and amateur
- publishing guides to Long Island's natural world
- promoting Long Island nature studies by sponsoring specific research projects
- hosting an annual conference devoted to Long Island Natural History.

Long Island is the largest island in the continental U.S. and a unique biogeographical region located at the northern limits of many southern species of flora and fauna and at the southern limits of many northern species. These features contribute to rich species diversity: some of the island's preserved areas contain the highest number of rare species per area in New York State.

Become a Charter Member of the Long Island Nature Organization. Receive discounts on publications, field trips, and next year's Natural History Conference.

www.longislandnature.org, click on Support and Join.

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AGENDA & ABSTRACTS

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Session 8 4:15—4:55

American Eels in New York

Carol Hoffman, cjhoffma@gw.dec.state.ny.us

ABSTRACT: The American eel, *Anguilla rostrata*, is a catadromous fish. It spends most of its life in fresh waters and estuaries, and migrates to the Sargasso Sea to spawn only once in its lifetime and die. All American eels on the east coast of North America are considered part of the same population. They are an economically important food fish and bait fish in New York. In its 2012 Benchmark Stock Assessment, the Atlantic States Marine Fisheries Commission (ASMFC) recently declared the American eel population depleted in United States waters. This presentation will give a summary of the American eel lifecycle and biology. It will also provide an overview of the New York State DEC young of the year glass eel survey, which has been conducted annually on the Carmans River since the year 2000.

Carol has been the NYS DEC Diadromous Fisheries Unit Leader for the past 5 years. Previously, she was a Marine Biologist in the NYS DEC Shellfish Sanitation Unit. She received her M.S. in Marine Biology from the University of Oregon, and her B.S. from SUNY Stony Brook.

Life History of Long Island Furbearers and New Citizen Science Opportunities

Josh Stiller, jcstille@gw.dec.state.ny.us

This presentation will discuss the life history and management of Long Island furbearer species, as well as new efforts using Citizen Science to document their current distribution. Information from the general public, including naturalists, trappers and hunters, is vital to help biologists better manage furbearer species throughout the region. The data collected will help guide future data collection efforts and possibly management decisions. This presentation will also discuss the current status of coyotes in Suffolk and Nassau counties, human-coyotes interactions in a suburban landscape, and ways for the general public to mitigate possible conflicts with canids.

Josh Stiller is a wildlife biologist for the NYS Department of Environmental Conservation on Long Island. He earned his Master of Science in Wildlife Management from SUNY Environmental Science and Forestry. Prior to working for the DEC, he worked throughout many areas of the United States, from North Dakota to Delaware. Some research he has been involved with include, the efficacy of predator management and the corresponding effect on ground-nesting waterfowl and the migration chronology of Common Mergansers in Southeastern New York inferred from satellite telemetry. After graduate school and many temporary positions, Josh moved on to his current position managing game mammals on Long Island.

Mr. Wise received a bachelors (Biology) and masters degree (Marine Science) from LeMoyne College in Syracuse, New York and Stony Brook University, respectively. Since 1986, Mr. Wise has been the Associate Director of Stony Brook University's School of Marine and Atmospheric Sciences. He also directs the School's Living Marine Resources Institute (or LIMRI). Prior to coming to Stony Brook, Mr. Wise was the Assistant and then Acting-Director of New York Sea Grant, then headquartered in Albany, New York. In May 2013, he returned to New York Sea Grant, beginning a temporary stint as Interim Director of that organization. His interests and expertise include fisheries and fisheries management, marine policy, aquaculture, and marine education. Mr. Wise chairs a number of governmental and non-governmental bodies that advise on priority regional marine resource management issues and is a member of scads more such groups.

The Status of the Red Knot (*Calidris canutus rufa*) and Saltmarsh Sharp-tailed Sparrow (*Ammodramus caudacutus*) on Long Island

Steven Papa, steve_papa@fws.gov

ABSTRACT: The distribution and abundance of the red knot (*Calidris canutus rufa*) and saltmarsh sharp-tailed sparrow (*Ammodramus caudacutus*) across Long Island are presented. The red knot is a migratory shorebird species that is currently proposed for protection under the Federal Endangered Species Act as a threatened species. The saltmarsh sharp-tailed sparrow is an obligate resident of salt marshes. It is ranked as one of the Fish and Wildlife Service's species of highest conservation concern in Bird Conservation Region 30 and the subject of intense investigation throughout its range on the Atlantic Coast. These species are part of a rich and diverse avian assemblage on Long Island that is impacted by anthropogenic and natural factors.

Steve Papa is a senior fish and wildlife biologist with the U.S. Fish and Wildlife Service's Ecological Services Division in Shirley, NY. He works on issues related to the recovery of threatened and endangered species and the conservation of migratory birds.

Long Island Natural History Conference Schedule

December 6, 2013

8:00 – 9:00 Registration / Sponsors table set up

NOTE: Presentations listed as “A” will be held in Berkner Auditorium; “B” in room Berkner B. The concurrent sessions are 45 minutes in length. Presentations are limited to 40 minutes (including time for questions), allowing 5 minutes for participants to move to the next talk.

Morning Sessions

9:00 – 9:15 Welcome and Opening Remarks: Tim Green, Brookhaven National Laboratory

9:15 – 9:55 Session 1

A **Home Ranges of Eastern Box Turtles at BNL** Jennifer Higbie

B **The Carnivorous Plants of Long Island** Matthew Michael Kaelin

10:00 – 10:40 Session 2

A **Coastal Response to Hurricane Sandy at Fire Island, N.Y.** Cheryl Hapke

B **Suburban Nature and Environmentalism on Post WWII Long Island: Past as Prologue?** Christopher Sellers

10:45 – 11:00 BREAK

11:00 – 11:40 Session 3

A **The Development of the Old Inlet Breach and its Impacts on Great South Bay** Charlie Flagg

B **The Moths of Long Island** Hugh McGuinness

11:45 – 12:25 Session 4

A **Mother Nature Knows Best: How Superstorm Sandy Changed Sunken Meadow Creek** Ariana Newell

B **The Land of Oz: Spiders and Chiggers and Ticks, Oh My!** Scott Campbell

Afternoon Sessions

12:30 – 1:30 LUNCH

1:30 – 2:10 Session 5

A **Connectivity and Gene Flow Among Eastern Tiger Salamander Populations in Highly Modified Anthropogenic Landscapes** Valorie Titus

B **The Bats of Long Island** Michael Fishman

2:15 – 2:55 Session 6

A **Monitoring Movement and Passage of Fish in the Carmans River** Heidi O’Riordan

B **A Day in the Life of the Carmans River**
Melissa Griffiths Parrott

3:00 – 3:30 BREAK

3:30 – 4:10 Session 7

A **The History of the Menhaden Fishery in New York**
William Wise

B **Status of the Red Knot and Saltmarsh Sharp-tailed Sparrow on Long Island** Steve Papa

4:15 – 4:55 Session 8

A **American Eels in New York** Carol Hoffman

B **The Long Island Mammal Survey** Joshua Stiller

5:00 – 5:30 Open discussion / closing remarks

5:30 – 6:30 Wine and cheese reception

Melissa Griffiths Parrott has been in the Environmental Education field for over 17 years. After receiving her degree from California State University Long Beach, she worked with El Dorado Nature Center in Long Beach California and the Natural History Museum of Los Angeles County, and Sweetbrier Nature Center in Smithtown, New York. Melissa is the former Director of Environmental Education for the Executive Office of Environmental Affairs for the Commonwealth of Massachusetts. She worked directly with the Governor, Lieutenant Governor, and the Secretary of Environmental Affairs and the Department of Education Commissioner on incorporating environmental education, particularly biodiversity- into the State learning standards. She attended Harvard University for Environmental Policy and is currently the Education and Outreach Coordinator for the Central Pine Barrens Joint Planning and Policy Commission and heads such efforts as A Day in the Life of the Carmans River, Pine Barrens Research Forum’s Student Science Symposium, International Twinning Student Science Exchange with Pisa Italy, Pine Barrens Discovery Day, Barrens to Bay summer camp and K-12 environmental programming.

Session 7 3:30—4:00

The History of the Menhaden Fishery in New York

William Wise, william.wise@stonybrook.edu

ABSTRACT: Today, there is a small seasonal fishery for Atlantic menhaden (*Brevoortia tyrannus*) in New York, a gill net and pound net fishery that supplies the bait market. At one time, however, the commercial fishery for menhaden dwarfed all other commercial fisheries, both in New York and in the nation. What began in the years after the American Revolution as a beach seine fishery catching menhaden for use as farm fertilizer morphed in the latter decades of the 19th Century into an offshore fishery harvesting menhaden primarily for the oil it contains, with the residual matter (scrap) used as a component in prepared mixed fertilizers. In the third decade of the 20th Century, menhaden scrap began to be used increasingly in commercial animal feeds, prompting a significant expansion of the fishery. More latterly, menhaden oil has become a principal component in dietary health supplements. Throughout this evolution, the technologies for catching and processing menhaden became ever more sophisticated and automated, and the growth of the industry attracted its share of critics, whether property owners living near the odorous reduction plants or groups concerned about the impact of such large removals of a key forage species on nearshore marine food webs. This paper will trace this evolution as it took place in New York, highlighting the social, economic and technological factors and forces that drove it.

Session 6 2:15—2:55

Monitoring Movement and Passage of Fish in the Carmans River

Heidi N. O’Riordan, hnorriord@gw.dec.state.ny.us

ABSTRACT: In March 2012, Region 1 New York State Department of Environmental Conservation Fisheries Unit began monitoring the movement of several species of diadromous fish in the Carmans River within the Southaven County Park. Alewife (*Alosa pseudoharengus*), American eel (*Anguilla rostrata*), brook trout (*Salvelinus fontinalis*), brown trout (*Salmo trutta*), and rainbow trout (*Oncorhynchus mykiss*) have been tagged with PIT (Passive Integrated Transponder) tags. Four NYSDEC and three Cornell Cooperative Extension PIT Tag antenna arrays were constructed and installed at various points in the Carmans River. The PIT tagging project will provide information for the following projects: the Fate of Stocked Trout Study, which is a statewide effort to evaluate the current stocking practices; monitoring the naturally reproducing brook trout population in the river; evaluation of the Alaskan steep-pass fish ladder that was installed on Hards Lake dam in 2008; and a side project will test the homing capabilities of the American eel by relocating them into the tidal portion of the river and monitoring their use of the fish ladder. The results of the aforementioned projects will be used to determine future management decisions regarding dam management, fish stocking, and fish management decisions within the Carmans River.

Heidi O’Riordan is a biologist with the NYSDEC.

A Day in the Life of the Carmans River

Melissa Griffiths Parrott, mgriffiths@pb.state.ny.us

ABSTRACT: Each year, on a single day in the fall, hundreds of students and teachers from school districts located in the Central Pine Barrens engage in hands-on citizen science exploration of the Carmans River. Natural History experts and scientists assist the students in collecting scientific water chemistry and biodiversity information, analyzing it and sharing it to portray the status of the river ecosystem during a “Day in the Life of the Carmans River.”

This interactive program helps students develop an appreciation for and knowledge of the Carmans River ecosystem; they collect useful scientific data in regard to the river’s status and become stewards of the river’s water quality and natural resources, they explore how their piece of the river fits into the larger ecosystem. We will discuss this successful model for “A Day in the Life”, how we engaged over 400 students, 20 teachers and 30 partners on one single day, how the students collect, analyze and share their citizen science data plus the importance of partnerships and collaborations.

Morning Sessions

Session 1 9:15-9:55

Home ranges of Eastern Box Turtles at Brookhaven National Laboratory

Jennifer Higbie, higbie@bnl.gov

ABSTRACT: Eastern box turtles (*Terrapene carolina carolina*) are listed as species of special concern in New York State. Loss of habitat and declining populations across their distribution range have raised the need to further understand the natural history and home range of the species on Long Island. In 2011, Brookhaven National Laboratory (BNL) began radio tracking 6 turtles. An additional 20 turtles were added to the study in 2012 to investigate potential responses to the recently constructed solar farm. Using ArcGIS, home ranges were calculated and compared. We looked at variable such as gender, age, vegetation, and disturbance. Turtles will continue to be tracked for the several years.

Jennifer Higbie has worked on the Natural Resources staff at BNL for 10 years. She is currently pursuing her Ph.D. at the University of Massachusetts - Amherst in Environmental Conservation.

The Carnivorous Plants of Long Island

Matthew Michael Kaelin, mattfromquogue@aol.com

ABSTRACT: Carnivorous Plants are a fascinating and curious subject. They attract, catch and consume invertebrates and in some cases, small vertebrates by various diabolical methods. The rich photography for this presentation will express the fascinating and macabre beauty these plants possess while providing detailed examples for observation and identification.

Long Island is the division and the bridge between the pine barrens of New Jersey and the coastal plains of New England and as such, exhibits the diversity of carnivorous plants across the region, yet is often overlooked. Containing coastal plains ponds, pine barrens, sphagnum bogs and shifting dune landscapes, Long Island provides many ideal and varied habitats for carnivorous plants. Through our awareness, we will have the ability to restore and manage the suitable habitats for Long Island’s native carnivorous plants, which will also protect other threatened flora and fauna that depend upon these same ecosystems helping preserve the overall biodiversity of our Island.

“The Carnivorous Plants of Long Island” presentation will cover the sixteen species in the three Genera of Carnivorous Plants that are native to Long Island. I will discuss the subspecies of the Pitcher Plant *Sarracenia purpurea*, the Sundew species (*Drosera* and their hybrids) that can be found on Long Island, examples of unusual growth habits observed in *Drosera intermedia*, the importance of Long Island’s *Drosera filiformis* populations, and descriptions of Long Island’s native Bladderworts (*Utricularia*). The major threats to the continual survival of the carnivorous plants on Long Island and the possibilities for conservation to protect them for the future will also be discussed.

Matthew Michael Kaelin is an accomplished cultivator of carnivorous plants and has exhibited his photography of carnivorous plants at Galleries and events in Manhattan, Brooklyn, Massachusetts, Rhode Island and on Long Island and is currently involved in a conservation survey of Long Island’s native carnivorous plants for the North American *Sarracenia* Conservancy and the Long Island Botanical Society. He also chaired the organization of the academic presentations for the 10th Conference of the International Carnivorous Plant Society.

Session 2 10:00 -10:40

Coastal Response to Hurricane Sandy at Fire Island, NY

Cheryl Hapke, chapke@usgs.gov

ABSTRACT: Hurricane Sandy resulted in profound morphologic changes to the beach and dune system at Fire Island, NY. Data collected before and after the storm, as well as throughout the winter and summer following Sandy, provide a means to systematically examine the response and recovery of the coastal system from the largest storm to impact the island in recent history. The response to Sandy is also explored in the context of the long-term (decade to century) behavior of the system and the regional geology.

Dr. Cheryl Hapke is a research coastal geologist with the US Geological Survey in St Petersburg, FL. She received her Ph.D. in coastal geology at the University of California Santa Cruz, a M.S. from the University of Maryland and a B.S. from the University of Pittsburgh. Hapke's research is focused on shoreline dynamics, coastal erosion hazards and processes of coastal change. She has been a principal investigator on a cooperative research effort focused on assessing morphologic change of the barrier island at Fire Island, N.Y. since 2006, collaborating with other USGS researchers, the NPS, USACE and NY State agencies. Most recently she was detailed to the FEMA NY Joint Field Office to serve as coastal science subject matter expert for Hurricane Sandy response and recovery.

The Bats of Long Island

Michael S. Fishman, mfishman@bartonandloguidice.com

ABSTRACT: Long Island, New York is a glacial moraine and outwash plain that is a geologically and ecologically unique region of New York, and contains habitats and conditions not widely studied in bat ecology. Discovery of a northern bat (*Myotis septentrionalis*) showing signs of White-nose Syndrome (WNS) on Long Island in 2011 spurred interest in learning more about the current species distribution of bats on Long Island in order to document anticipated changes due to WNS, and to see if relative frequency changes had occurred since the first major survey of bats occurred on Long Island 100 years ago. We conducted mist net and acoustic surveys at 28 nets sets divided between Brookhaven National Laboratory (BNL) in Upton, Suffolk County, NY (n=12 sites) and Wertheim National Wildlife Refuge in Brookhaven, Suffolk County, NY (n=16 sites). We captured 125 bats of 3 species: *Eptesicus fuscus* (Big Brown Bat), *Lasiurus borealis* (Eastern Red Bat) and *Myotis septentrionalis* (Northern Bat). We acoustically detected these species, as well as *Myotis lucifugus* (Little Brown Bat), *Myotis leibii* (Eastern Small-Footed Bat), *Lasiurus cinereus* (Hoary Bat), and *Lasiurus noctivagans* (Silver Haired Bat). Relative frequency distribution of captures was similar to those observed on other sites 1 year after detection of WNS, suggesting that WNS may have been delayed in reaching Long Island. Habitat use comparisons were also made between a burned and unburned section of pine barrens habitats at BNL. *Lasiurus borealis* preferred unburned pine barrens, while *Myotis septentrionalis* preferred burned patches. *Eptesicus fuscus* did not exhibit a selection of either habitat condition.

Michael Fishman is a Certified Wildlife Biologist and Professional Wetland Scientist currently serving as the Senior Managing Environmental Scientist at Barton & Loguidice, P.C., a New York-based Environmental Consulting and Engineering Company. He is also co-founder of Smarter By Nature, LLC, an environmental education and scientific consultancy. He is currently President of the New York Chapter of the Wildlife Society, Past President of the Northeast Bat Working Group, and former Vice Chair of the New York State Wetlands Forum. Michael works with a wide variety of endangered species, and has conducted biodiversity surveys in 25 states. He started working with bats in 1991, and is a Qualified Indiana Bat Surveyor in New York, Ohio, and Pennsylvania. His graduate studies explored habitat selection of the federally-endangered Indiana bat (*Myotis sodalis*), and as a native Long Islander, he has long been curious about the bat community on Long Island. Michael holds a Bachelor of Science degree in Natural Resources from Cornell University and a Master of Science Degree in Conservation Biology from the State University of New York College of Environmental Science and Forestry.

Afternoon Sessions

Session 5 1:30—2:10

Connectivity and Gene Flow Among Eastern Tiger Salamander (*Ambystoma tigrinum*) Populations in Highly Modified Anthropogenic Landscapes

Valorie R. Titus, vtitus7@mac.com

ABSTRACT: Fragmented landscapes resulting from anthropogenic habitat modification can have significant impacts on dispersal, gene flow, and persistence of wildlife populations. Therefore, quantifying population connectivity across a mosaic of habitats in highly modified landscapes is critical for the development of conservation management plans for threatened populations. The eastern tiger salamander (*Ambystoma tigrinum*) is listed as endangered in New York and New Jersey and remaining populations persist in highly developed landscapes in both states. We used landscape genetic approaches to examine regional genetic population structure and potential barriers to migration among remaining populations. Salamander populations in each state belong to distinct genetic demes, consistent with the large geographic distance that separates these isolated, range-edge populations. We found overall low genetic diversity and high relatedness within populations, likely due to isolation and relatively small population sizes in each state. Nonetheless, landscape connectivity analyses reveal habitat corridors among remaining breeding ponds within each state. Furthermore, molecular estimates of population connectivity among ponds indicate that gene flow still occurs at regional scales. Further fragmentation of remaining habitat will potentially restrict dispersal among breeding ponds, cause the erosion of genetic diversity, and exacerbate already high levels of inbreeding. We recommend the continued management and maintenance of habitat corridors to ensure long-term viability of these endangered populations.

Valorie is a graduate of Binghamton University where she studied the movements and population genetics of the eastern tiger salamander on Long Island. The majority of her work was completed on Brookhaven National Laboratory property. She is currently working for the Wildlife Conservation Society- formerly at the Bronx Zoo as a curatorial science fellow in the herpetology department, and presently as a postdoctoral associate in Montana. Her main focus is the conservation and management of reptiles and amphibians, and is now looking at the impacts of bison reintroduction in Montana on aquatic communities.

Suburban Nature and Environmentalism on Post WWII Long Island: Past as Prologue?

Christopher Sellers, christopher.sellers@stonybrook.edu

ABSTRACT: Long Island stood front and center in the post-WWII media and social science of the United States not so much because of its nature as because of its suburbanizing. Yet the spread of suburbs here did not just destroy nature. A more even-handedly ecological lens on Long Island's postwar suburb-making reveals how it stirred its own characteristic ecology, both domesticated and wild. And we learn much, as well, about how and why fore-running suburbs like Long Island served as birthplaces for a new politics of nature's defense. That modern environmentalism most closely associated with Rachel Carson had some of its most important roots among Long Island's suburbanites.

I will conclude my talk with some speculation on how Long Islanders can help lead the way toward a future, comparable transformation of the politics of nature's defense.

Christopher Sellers, a Professor of History at Stony Brook University, grew up in a small town in the mountains of North Carolina but has lived on Long Island since 1994. He holds a Ph.D. in American Studies as well as an M.D. and is the author of Crabgrass Crucible: Suburban Nature and the Rise of Environmentalism in Twentieth-Century America (2012), as well as books and articles on the history of environmental and industrial health.

Session 3 11:00—11:40

The Development of the Old Inlet Breach and its Impacts on Great South Bay

Charles N. Flagg, Charles.Flagg@stonybrook.edu

ABSTRACT: Hurricane Sandy wreaked havoc on the coastal regions of the Middle Atlantic Bight and severely impacting the eastern end of Great South Bay where the storm created three breaches in the coastal barrier of Fire Island. The largest breach occurred in the wilderness area of the Fire Island National Seashore. The wilderness area is special in that it is allowed to evolve naturally and as a result the breach in that area was left to develop on its own. We have maintained a oceanographic observatory within Great South Bay for the past eight years and as a result we have been able to monitor and document the impact that this breach has had on water levels, tides and water quality to an extent never before possible. This talk will give an overview of the development of the breach and the resultant changes in Great South Bay based upon data collected during Sandy and subsequent coastal storms as well as with a series of bathymetric surveys and aerial photographs showing the changes in the morphology of the breach.

Charlie Flagg is an adjunct professor and researcher at SUNY Stony Brook. He received a B.S. in Mechanical Engineering at Cornell University, an M.S. in Naval Architecture at M.I.T. and a Ph.D. in Physical Oceanography at Massachusetts Institute of Technology / Woods Hole Oceanographic Institution. His current research interests include the long-term observations of currents over the shelf, slope and Gulf Stream from the MV Oleander; transports into the Norwegian Sea across the Iceland Faroe Ridge and through the Shetland Channel from the MV Norrona; development of ADCPs in an expanded voluntary observing ship program; tidal and low frequency currents, seasonal and inter-annual hydrographic variability of the Gulf of Maine/Georges Bank, Mid-Atlantic Bight and Slope Sea; circulation in coastal lagoons and the impact of breaches on lagoonal water properties.

The Moths of Long Island

Hugh McGuinness, hdmcguinness@gmail.com

ABSTRACT: Long Island has an abundant native fauna of Lepidoptera. Although a checklist has never been undertaken for the area, there are at least 1500 species, and perhaps as many as 2000, on LI. There has been relatively little moth collecting done on LI, which is surprising given the large number of rare species listed by the New York Natural Heritage Program that are known to occur here. In 2002 I began photographing and collecting moths on the East End. Much of my work has focused on three major projects: searching for moths on New York's rarity list in order to determine their status; using moths as indicator species for the purpose of managing habitat; elucidating the range of moths on LI. These efforts have yielded nearly 20,000 specimens and a list of over 1000 species. In this talk, I will give an overview of Lepidopteran biodiversity, explain how moths can be useful as management tools, dispel some pernicious myths about moths, and discuss the joy of mothing.

Hugh McGuinness is an entomologist who has been working to document the Long Island moth fauna since 2002. He received a Ph.D. in ecology and evolutionary biology from the University of Michigan in 1987. A former member of the faculty at Southampton College, he spent 15 years working at the Ross School in East Hampton. Since 2004 he has received numerous contracts from The Nature Conservancy and the New York State Museum to document the moths of Long Island. Currently he lives in Washington, D.C., with his wife and two children, after living in Sag Harbor for 16 years. He works at Maret School and volunteers as a curator at the Smithsonian Museum of Natural History.

Session 4 11:45—12:25

Mother Nature Knows Best: How Superstorm Sandy Changed Sunken Meadow Creek

Ariana Newell, Ariana.Newell@parks.ny.gov

ABSTRACT: In October 2012, Superstorm Sandy washed out a 60-year-old berm that restricted tidal flow to Sunken Meadow Creek, restoring tidal flow to the stagnant channel. A plan to remove the berm had previously been identified as a high priority for the region and the design was nearing completion when the storm hit. Pre-monitoring surveys had been collected since 2008 in preparation for the project, providing a baseline of data we could compare to changes in the creek after tidal flow was restored. We have observed many changes in the creek after the storm, including increased salinity upstream, erosion along stream banks, reduction in amount and vigor of Phragmites, and changes to the flora and fauna observed using the creek channel.

Ariana Newell is the Regional Natural Resource Biologist for the Long Island and New York City regions of NYS Parks. She works on a variety of habitat restoration, endangered species protection, and invasive species projects within her regions. She received a Master's degree in Biological Sciences from Marshall University and Bachelor's degree in Wildlife Management from SUNY Cobleskill.

The Land of Oz: Spiders and Chiggers and Ticks, Oh My!!!

Scott R. Campbell, Scott.Campbell@SUFFOLKCOUNTYNY.GOV

ABSTRACT: For local residents, there are differing opinions on the presence or absence of the black widow spiders (*Latrodectus* spp.) and brown recluse spiders (*Loxosceles reclusa*) on Long Island. There are also differing opinions on the presence or absence of chiggers (Family Trombiculidae) on Long Island and if in fact they are actually larval lone star ticks (*Amblyomma americanum*). Scientific facts about natural ranges and biology will be presented and discussed in order to consider these organisms based on science and not opinion. Also, possible public health impacts of these organisms will be discussed.

Scott received a B.S. from Muhlenberg College and a Ph.D. from Cleveland State University. Currently, he is the Laboratory Chief of the Arthropod-Borne Disease Laboratory for the Suffolk County Department of Health Services. Since 1995, he and his staff have been responsible for countywide surveillance for all mosquito and tick-borne pathogens found in Suffolk County that cause human disease.