Third Annual Long Island Natural History Conference
Friday and Saturday
March 20-21, 2015
Brookhaven National Laboratory, Upton, NY

Abstracts and Bios

Falcons on FIRE (Fire Island Raptor Enumerators)

Drew Panko and Trudy Battaly—Board of Directors, Northeast Hawk Watch Association

There are 8 hawk watches within a 50-mile radius of NYC. The Fire Island hawk watch is unique in that it takes place on a barrier beach. We have been watching and counting since 1982 and have seen remarkable changes in the composition of the flight. Some of these changes mirror similar changes at the other watches and some are unique to Fire Island. We will discuss some of the things we have learned and present some possible interpretations of the observed changes.

Drew Panko (dpanko@pipeline.com) is the Co-founder & Coordinator, Fire Island Hawk Watch. He is also on the Board of Directors of Northeast Hawk Watch Association and a counter for Hook Mountain Hawk Watch. He is also a retired teacher of Physics and Chemistry from Yonkers High School and a researcher of Northern Saw-whet Owls.

Trudy Battaly (merlin@pipeline.com) is a counter for Fire Island Hawk Watch, as well as on the Board of Directors for the Northeast Hawk Watch Association; she is also coordinator for Hook Mountain Hawk Watch. Trudy is also Adjunct Faculty for Mathematics at Westchester Community College and researcher of Northern Saw-whet Owls.

The power of networked ecological initiatives for climate change research and education

Kerissa Battle, PhD., President, CEO Community Greenway Collaborative, Inc.

The keen motivation of individuals and communities to know their bioregion (and the increasing use of mobile technology) have enabled the growth of national databases and social networks capable of long-term monitoring activities to detect

and understand the effects of climate change on ecosystems. What happens when we network these initiatives and leverage their capacity and outreach?
The New York Phenology Project (NYPP) is a regional initiative that utilizes a national open source data platform and validated protocols to develop networked phenology monitoring focused on detecting climate and urbanization impacts on plants and pollinators along an urban to rural gradient. Populated by a broad array of partner sites including universities, schools, research stations, museums, nature preserves, education centers and more, the NYPP protocol is standardized across sites and implementation of each program differs based on the specific missions of the organizations. Can Long Island join this effort? This talk examines the ingredients essential to a successful networked climate change monitoring initiative and how to get started.

Kerissa Battle (kerissabattle@gmail.com) is an accomplished not-for-profit executive and entrepreneur, Kerissa has extensive experience in environmental research and STEM education. She founded and is leading several innovative citizen science initiatives focused on phenological data collection and evaluation (see, for example, (www.nyphenologyproject.org). She has also catalyzed emergent ecological initiatives with partners like *The National Wildlife Federation*, *The Cary Institute*, and *Jamaica Bay Wildlife Refuge* among many others. Kerissa has worked as a teacher, Education Director, project manager and field biologist for several conservation-based organizations and has developed, evaluated and implemented science, environmental and teacher training programs in multiple university and K-12 settings. Her PhD. research and action-based work through Community Greenways Collaborative are focused on catalyzing community-based plant and pollinator conservation and restoration, urban green initiatives and citizen science network implementation and evaluation.

Sharks and Rays of the New York Seascape

Merry Camhi, PhD, Director, New York Seascape, Wildlife Conservation Society

Sharks are powerful icons of wild nature that capture the attention of the public and play an important role in the healthy function of marine ecosystems. As a group, however, they are also highly vulnerable to exploitation and suffer from severe levels of overfishing in all the world's oceans, including here in the Mid Atlantic. New York waters alone support more than 40 species of sharks and their close relatives the skates and rays. In 2011, Wildlife Conservation Society scientists began studying sharks in the New York Bight, using acoustic and satellite telemetry to better understand their movements and site fidelity, and the importance of our local waters as nursery, foraging, and migratory habitat. Preliminary findings from our current research on sand tiger sharks (inshore) and shortfin mako sharks and blue sharks (offshore) will be presented, as well as plans for a new citizen science initiative and *Ocean Wonders: Sharks!* exhibit at the New York Aquarium.

Dr. Merry Camhi (mcamhi@wcs.org) is the Director of WCS's New York Seascape, a joint program of the New York Aquarium and the Global Marine Program. Launched in July 2010 as the first WCS seascape in North America, this initiative seeks to raise public awareness and take action to conserve threatened marine wildlife in the New York Bight, through conservation research, citizen science and education, and advocacy to improve management policies. Current New York Seascape projects include acoustic and satellite tagging of sharks to better understand their movements and habitat needs in the Mid Atlantic, monitoring and management of diadromous fish in the Bronx River, and a number of initiatives to build a local New York ocean constituency.

Merry has worked in marine conservation since receiving her Ph.D. in Ecology from Rutgers University, and then as a scientist and assistant director of Audubon's Living Oceans Program, focusing on domestic and international conservation and management of large ocean fishes, and sharks in particular. She has been a member of the IUCN Shark Specialist Group since 1994, and previously served as Deputy Chair and co-editor of Shark News. In 2007, she was the Content Coordinator for the American Museum of Natural History's exhibition Water: H20 = Life. Her most recent publications are a co-authored IUCN report *The Conservation Status of Pelagic Sharks and Rays* (2009), and the co-edited book *Sharks of the Open Ocean* (Wiley-Blackwell, 2008).

The effects of excessive nitrogen loading on Long Island's coastal ecosystems

Christopher J. Gobler, Ph.D., Professor, Stony Brook University, School of Marine and Atmospheric Sciences

The nitrogenous waste from more than one million Suffolk residences is leaching out of septic tanks and cesspools and into the groundwater beneath our feet. This unplanned experiment is proceeding quickly, as the recently released Suffolk County Comprehensive Water Resources Management Plan reported rapid and large changes (40 and 200% increase) in the levels of nitrogen in Suffolk County's groundwater between 1987 and 2005, with measurements in 2013 showing the same rate of change and models indicated these levels will continue to rise for several decades.

Nitrogen rich groundwater seeps from land into our bays, harbors, and estuaries where it is exacting an unwanted toll. Excessive nitrogen loading has contributed to the loss of up to 80% of Long Island's coastal salt marshes since the 1970s. Excessive nitrogen seepage is also stimulating the growth of multiple strains of harmful and toxic algae such as brown tides, red tides, green tides, rust tides, which were unknown to Long Island three decades ago, but recur annually today. These algae are having a cascading negative impact on our coastal ecosystems and in some cases can be a human health threat. Eelgrass meadows are critical benthic habitats

that sustain our most important shellfish and finfish but are highly sensitive to nitrogen and shading by algae.

As nitrogen levels in groundwater have increased, 90% of Long Island's eelgrass has vanished and Suffolk County has recently predicted these grasses will be extinct on Long Island in two decades if current nitrogen loading trends continue. Algal blooms stimulated by excessive nitrogen loading can also starve coastal waters of oxygen and make them more acidic, two conditions that are also detrimental to fish and shellfish.

For all of these reasons, Long Island fisheries have been on the ropes. In the 1970s, the bay scallop fishery on eastern Long Island and the hard clam fishery on the south shore were the two largest fisheries for these mollusks on the US east coast. Since that time, landings of hard clams and bay scallops on Long Island have diminished more than 90% due to a combination of the woes brought about by excessive wastewater nitrogen outlined above: Algal blooms, seagrass loss, low oxygen, and lower pH. In the end, these trends could directly affect every Long Islander as billions of dollars of our economy are wrapped up in fisheries and tourism and home values have been shown to trend with coastal water quality.

Christopher J. Gobler (Christopher.Gobler@liu.edu) is a professor within the School of Marine and Atmospheric Sciences (SoMAS) at Stony Brook University. He received his M.S. and Ph.D. from Stony Brook University in 1995 and 1999, respectively.

Chris Gobler's research examines the functioning of aquatic ecosystems and how that functioning can be effected by man or can affect man. He investigates harmful algal blooms (HABs) caused by multiple classes of phytoplankton in diverse ecosystems (e.g. estuaries, lakes, coastal ocean) using a variety of approaches (field, laboratory, experimental, molecular.) Another research focus within his group is climate change effects on coastal ecosystems including investigations of how future and current coastal ocean acidification effects the survival and performance of early life stage bivalves and fish. A final area of interest is how anthropogenic activities such as eutrophication and the over-harvesting of fisheries alter the natural biogeochemical and/or ecological functioning of coastal ecosystems.

Dr. Gobler has received more than $10M in funding for his research via grants from government agencies and private foundations, with core research support from NOAA, NSF, US EPA, the State of New York, and from the New Tamarind, Simons, Dolan, and Laurie Landeau Foundations. He has published more than 125 papers in international, peer-reviewed journals and has mentored more than 30 graduate students at Stony Brook University. He has provided testimonies and briefings to the US House of Representatives and US Senate on multiple water-related topics. He is a two-term (2008-2014; term limit) elected member of the National Harmful Algal Bloom Committee (NHC) commissioned by US Congress. Gobler is on the editorial board of the scientific journals *PLOS One*, *Frontiers in Aquatic Microbiology,*

Perspectives in Phycology, and *Harmful Algae*. Gobler has received numerous awards for his research and the usefulness of his science in shaping policy including the Bay Guardian Award (WaterKeeper Alliance), the Environmental Equinox Award (Citizen's Campaign for the Environment), the Dennis Puleston Award for Environmental Achievement (Pine Barrens Society) and the Trustee's Award for Scholarly Achievement (Long Island University).

Novel ecosystems: a threat to wildlife

Marilyn J. Jordan, PhD., Retired Senior Conservation Scientist, The Nature Conservancy, Cold Spring Harbor, NY

Novel ecosystems — new, historically unprecedented combinations of species — occupy ~40% of the terrestrial ice-free globe. Novel ecosystems are created by human land use practices, abandonment of agricultural lands, introduction of invasive species, loss of native species, pollution, and global climate change. As the proportion of non-native plant species in an ecosystem increases there typically is a decrease in native plant species diversity and biomass. Most herbivorous insect species are specialists and can feed on only one, or very few, species of native plants. As novel ecosystems containing a hodgepodge of non-native plants from around the world become widespread we risk losing about 90% of native insect herbivores.

Insects are a critical part of food webs because they convert plants into nutritious packages of insect protein and fat essential for a wide range of wildlife species. Loss of insect food sources undermines food webs and probably reduces the health and abundance of many wildlife species. Such effects are poorly known because the impact of nonnative plants on higher trophic levels is one of the least-studied areas of invasion biology.

Overly abundant white-tailed deer preferentially browse and suppress native plant species, which favors the spread of invasive non-native plant species. Excessive browse simplifies vegetation structure, degrades wildlife habitat, and is an underappreciated cause of food web degradation and novel ecosystem creation. Simplified ecosystems lack the diverse mix of species capable of differential responses to disturbance, and lose the resilience needed to adapt to environmental change. Such ecosystems cannot reliably sustain wildlife or people.

We have no choice but to manage novel ecosystems for their conservation value and ecosystem services. We need to work at all scales and engage people. For example encourage private and public land owners to plant more native plant species and preserve backyard wildlife habitat. At landscape scales reduce human caused habitat degradation (e.g. altered nutrients and hydrologic regimes, pollution, deer browse and habitat fragmentation). On national and global scales fight for reduced

emissions of greenhouse gases. We have a responsibility to care for and protect the earth and all of the life it supports.

Dr. Marilyn Jordan (mj.eco.phd@gmail.com) retired in January as a Senior Conservation Scientist for The Nature Conservancy after working for TNC on Long Island since 1992. She grew up in Queens and got a BA in biology from Queens College (1966) and a Ph.D. in plant ecology from Rutgers University (1971). Her career experience includes air and soil pollution, microbial ecology, nutrient cycling in lands and waters, invasive plant science, fire ecology of the LI Pine Barrens, conservation planning, ecological monitoring, impact of deer on forests, atmospheric deposition and novel ecosystems.

Harbor seals at Cupsogue Beach – population trends and site fidelity

Arthur H. Kopelman, Ph. D. SUNY Distinguished Service Professor; President, Coastal Research and Education Society of Long Island (CRESLI)

The waters of Long Island are home to Harbor Seals (*Phoca vitulina concolor*), Grey Seals (*Halichoerus grypus*), Harp seals (*Pagophilus groenlandicus*), and Hooded Seals (*Cystophora cristata*). All of these species can be found at Cupsogue Beach from November to May, however, the predominant phocid seal is the harbor seal (98.98%). Our analysis of harbor seal usage of Cupsogue indicates distinctive patterns in monthly use, as well as variations in yearly usage. Disturbances from dredging and harassment may be affecting the use of this site by harbor seals. A review of our ongoing Cupsogue harbor seal photo-identification a catalog of over 70 recognizable seals will also be discussed.

Dr. Artie Kopelman (president@cresli.org) is a population ecologist whose research interests, since 1987 include the population dynamics and feeding ecology of fin and humpback whales of New York and New England; and since 1995, the population dynamics of pinniped of NY. Through the use of photo-identification, Dr. Kopelman has been examining the site fidelity of harbor seals at Cupsogue Beach Park in Westhampton Beach, NY, since 2006. He received his Ph.D. in Biology in 1982 from The Graduate School and University Center of CUNY. Dr. Kopelman is a full professor of science in the Department of Science and Mathematics, Fashion Institute of Technology of the State University of NY. Dr. Kopelman is also the president, co-founder, and webmaster of the Coastal Research and Educational Society of Long Island (CRESLI). In May 2010, Dr. Kopelman was appointed a Distinguished Service Professor by the State University of New York Board of Trustees. Distinguished Professorship is the highest honor conferred upon instructional faculty in the State University of New York (SUNY) system.

Status of orchids on Long Island, New York

Eric Lamont, PhD, President, Long Island Botanical Society and Tom Nelson, Co-author of Orchids of New England and New York

Historically, 36 native orchid species have been documented with voucher specimens from Long Island. Fourteen of the species are currently considered extirpated (although they can be naturally re-established) and several other species are known from only a single population or very few individuals. One hundred fifty years ago, Brooklyn and Queens were the orchid hotspots of Long Island. Today, Suffolk County provides healthy habitat for most of the island's surviving orchids. In 1962, Roy Latham collected the first specimen of a non-native orchid on Long Island (*Epipactis helleborine*, broad-leaved helleborine); since then, it has spread throughout the island.

In 1996, Lamont authored *Atlas of the Orchids of Long Island, New York*, exclusively based on voucher specimens collected from the 1850s to the 1990s. Since 1996, we have continued to monitor orchid populations on Long Island along with other local botanists and naturalists. This talk presents the results of our on-going field work on the status of orchids on Long Island.

To briefly summarize, during the past 20 years almost all species of native orchids on Long Island have declined in number of populations and/or individuals. Previously unreported populations of a few orchid species have been recently found by members of the Long Island Botanical Society. Populations of the non-native *Epipactis helleborine* can now be found throughout the island including dense urban areas like Brooklyn and Queens. Conservation efforts to preserve threatened orchid populations have been successful but need continual management which over time can be a problem. Some of the major threats to remaining orchid populations include herbivory, natural succession of open marshes and grasslands into shrub lands, roadside mowing and winter salting, and habitat destruction. Long Island still has large tracts of preserved open space which provide refugia for surviving orchid populations and other rare plants and animals.

Eric Lamont (elamont@optonline.net) was born and raised on Long Island. Early in his life, he was influenced by his grandmother, Darina, who was born in an isolated valley of the High Tatras Mountains in present-day Slovakia. She would take young Eric on nature walks and the two would spend hours together in her flower gardens. Eric has a Ph.D. in Botany and taught high school biology for 32 years. He has been the president of the Long Island Botanical Society since 1992 and is past-president of the Torrey Botanical Society. He was a contributing author to *Flora of North America* and is the author of more than 60 botanical papers in peer-reviewed journals. Eric has also discovered two previously undescribed plant species that were new to science. Eric and his wife Mary Laura live in the hamlet of Northville on the North Fork.

Tom Nelson (tomjackie90@msn.com) first became interested in orchids as a teenager in Utah, where he was mentored by the noted botanist Arthur Holmgren, an authority on the flora of the Great Basin Region. Tom studied the native species of the nearby Bear River Range and grew tropical species in the greenhouse that his wonderfully supportive parents built. Tom ended up pursuing a career in music, and is currently a professional jazz pianist in New York City where he lives with his wife Jackie and daughters Johanna and Christina.
In 2007 the Nelson family began a series of epic orchid hunting road trips to the far corners of North America. The Nelsons have driven over 60,000 miles in pursuit of wild orchids, allowing Tom to see and photograph 103 species and varieties. Tom has written a series of articles for the *North American Native Orchid Journal* telling the tale of these trips; he also gives talks about native orchids.

Long Island lichens: an exploration of a hidden world

James C. Lendemer, Post-Doctoral Researcher, Institute of Systematic Botany, The New York Botanical Garden

Lichens are fungi that are found in terrestrial ecosystems throughout the globe. From the highest mountains to the driest deserts they form conspicuous displays on rocks, trees, and soil where they are noticed by scientists, naturalists and the public alike. This presentation will explore the natural history of the lichens of Long Island. It will follow the development of the local biota from the distant past, to our modern present, and into the uncertainties of the future.

Dr. Lendemer (jlendemer@nybg.org) initiated his lichen research career at the Academy of Natural Sciences of Philadelphia in Pennsylvania and joined The New York Botanical Garden in 2007. He conducted extensive research throughout North America, particularly in the southern Appalachian Mountains and the Mid-Atlantic Coastal Plain. Biodiversity in these regions is threatened by an array of forces, including climate change. For example the Mid-Atlantic is considered a global "hotspot" for sea-level rise which is projected to inundate vast areas hosting some of the largest tracts of intact natural habitat within the next century. A comprehensive understanding of lichen biodiversity in that region, as in others, is pivotal to the creation of effective plans for conservation, management, and mitigation.

Cybertracker conservation track and sign certification: origins and applications

George Leoniak, Cybertracker Conservation

Cybertracker track and sign certifications have occurred in North America since 2005, but the origins of the certifications can be traced back to a scientist and a group of bushman trackers in South Africa. This presentation will discuss these

origins, as well as, overview the track and sign field evaluation process. Applications of the field evaluation and certification will be discussed in relationship to wildlife research, education, and personal growth.

George Leoniak (george@leoniak-tracking.com) is a track and sign evaluator for Cybertracker Conservation. He also conducts field research on wildlife corridors throughout New England. He has a M.S. in Conservation Biology through Antioch University.

Understanding the role of ctenophores and factors influencing seasonal population blooms in Long Island estuaries

Marianne E. McNamara, Ph.D., Suffolk Community College Biology Department

Jellyfish have received a lot of attention in recent years. Although a natural predator in our coastal waters, "the blobs of summer", as one researcher coined them, seem to turn everyone (from swimmers for their painful stings to fisherman for their net-clogging tendencies) against them. The 'jellies' better known to scientists as gelatinous zooplankton comprise several distinctive taxa including the cnidarians (true 'jellyfish' and siphonophores) and the non-stinging salps and ctenophores (comb jellies). The ctenophore *Mnemiopsis leidyi* is an ecologically important predator that is capable of exerting significant mortality on the zooplankton community in Long Island estuaries. Here, seasonal population blooms of the ctenophore have increased in magnitude and shifted towards an earlier seasonal maximum over the past two decades. Blooms of *M. leidyi* are made up of both lobate adults, which feed on mesozooplankton (copepods, larval fish and shellfish) and tentaculate larvae, which depend on microplankton (ciliates and dinoflagellates) for prey.

Since larval *M. leidyi* frequently dominate during ctenophore blooms, the abundance and composition of microplankton may explain the timing and magnitude of their blooms and subsequent recruitment into mesozooplankton-feeding adults. Ctenophore population data were used alongside meso- and microplankton abundances to interpret the top-down predatory impact of *M. leidyi* on the planktonic community in Great South Bay during 2008 and 2009. Field data suggested significant top-down control of mesozooplankton and microplankton during peak abundances of adult and larval *M. leidyi*, respectively.

Furthermore, the dramatic reduction of mesozooplankton during peak adult abundance resulted in a cascading effect on microplankton in 2009; correlations between high adult *M. leidyi*/low mesozooplankton with high microplankton abundances were identified, and preceded the increase in ctenophore larvae. These data suggest that blooms of *M. leidyi* result in a feedback system, in which intense

feeding activity by adults on mesozooplankton releases certain microplankton taxa from grazing pressure, enhancing prey conditions for larval ctenophores.

Additionally, an examination of ctenophore egg production detected a mismatch between optimum egg production by adults and sufficient microplanktonic prey abundance for larvae, resulting in significantly lower ctenophore densities in 2008 compared to 2009, when ideal prey conditions for adults and larvae coincided.

Dr. Marianne E. McNamara (mcnamam@sunysuffolk.edu) is a faculty member in the biology department at Suffolk County Community College where she teaches oceanography, marine biology and biology. She holds a Masters and Ph. D. in Marine and Atmospheric Science from Stony Brook University, where she specialized in zooplankton ecology. Marianne has spent several months at sea in nearby Long Island waters, as well as the Eastern Tropical Pacific and Antarctica. Her research focuses on the feeding ecology of zooplankton – the often-microscopic, drifting animals – of the marine environment, including gelatinous zooplankton or 'jellies'.

Marianne is an avid photographer and SCUBA diver, and has served as a naturalist for numerous educational outreach programs on Long Island including the Riverhead Foundation for Marine Research and Preservation, the Ward Melville Heritage Organization and the Coastal Research and Education Society of Long Island. Marianne was awarded the Jerry R. Schubel Graduate Fellowship for her role in transmitting science into forms that are accessible to the public and continues to participate in workshops encouraging the use of improvisation theatre exercises to improve scientific communication with actor Alan Alda.

Ph D., Marine and Atmospheric Science; Stony Brook University 2013; M.S. Marine and Atmospheric Science; Stony Brook University 2007; B.A. Biology; University of Maine at Machias (1998)

New York's newest immigrants: expansion of eastern coyotes into metropolitan New York

Christopher Nagy, Director of Research and Land Management, (Mianus River Gorge Preserve)

Coyotes (*Canis latrans*) have rapidly expanded their range from the prairies of the western US to the entire east coast, north to Canada and Alaska, and South throughout Central America. This expansion has proven the coyote an adaptable species capable of thriving in nearly every terrestrial habitat in North America. They have colonized several large urban centers in the US, and most recently are becoming more common in certain sections of New York City (NYC). We have studied this progression since 2010, and will discuss our findings relating to the distribution of coyotes in NYC and the change in site occupancy and breeding status observed from 2011 - 2014. The best way to both ensure human safety and to

conserve this species in developed areas is to educate communities about the ecology of coyotes, their associated value and risks, and how to safely coexist with them. In addition, we describe two ongoing citizen science studies, Wild Suburbia and Wild Suburbia: Long Island that offers opportunities for residents of the Tri-State area to assist in documenting this important ecological event.

Chris Nagy (chris@mianus.org) is an ecologist who has studied urban and suburban conservation in the New York area for over 10 years. He is currently the Director of Research and Land Management at the Mianus River Gorge in Bedford, NY, where he works to understand how managers and citizens can maximize ecosystem function in suburban and urban areas. His work at the Gorge focuses on the ecology of eastern coyotes, suburban white-tailed deer management, protecting and restoring native biodiversity in eastern forests, and student mentorship.

Understanding white-tailed deer and their influence on forest vegetation

Thomas J. Rawinski, Northeastern Area State and Private Forestry, USDA Forest Service

Largely because of human actions and inaction, white-tailed deer populations have skyrocketed in recent decades, especially in eastern Long Island. Many East End forests have been devastated by overabundant deer. Other less-impacted forests, with growing deer herds, may suffer the same fate in the future.

We find ourselves in a snapshot in time. Our forests were much healthier, from a deer impact perspective, three decades ago. Three decades from now, if deer continue to cause tree regeneration failure, will those forests resemble the forests of today? Will those forests have sufficient resilience to recover from the inevitable next hurricane? We must address the deer overabundance issue, without delay, to restore a balance that perpetuates healthy forests and healthy deer for all to enjoy.

Toward that end, this talk will focus on ways that professional and citizen scientists can better understand various levels of deer impact. Numerous photographs will show deer impacts to plant species in many different forest types. Coupled with the presenter's recent publication on the subject (http://www.na.fs.fed.us/pubs/2014/NA-IN-02-14_WhitetailedDeerNEForestsWEB.pdf), this information may help conservationists recognize and mitigate negative impacts of too many deer on the landscape.

Tom Rawinski (trawinski@fs.fed.us) is a U.S. Forest Service botanist based in Durham, NH. His work focuses on invasive plant and deer overabundance issues in the New England-New York region. Tom has a B.S. from the University of Massachusetts and an M.S. from Cornell University, where he studied purple

loosestrife. He began his professional career in 1982 with The Nature Conservancy, classifying New England's natural communities and conducting field studies throughout the Northeast. From 1990 to 1997 he was vegetation ecologist for the Virginia Department of Conservation and Recreation. In recent years Tom has worked for the Massachusetts Audubon Society as their director of ecological management. He has written scores of technical reports and publications, served on advisory committees, and worked to protect important natural areas throughout the Northeast. In 2001, Tom received the New England Wild Flower Society's Conservation Award. In 2014, he received the Integrity in Conservation Award from the New England Society of American Foresters.

Breeding birds of Long Island: past, present, and future

Eric Salzman, Author and Board Member, South Fork Natural History Society

Long Island has a long record of breeding birds extending from the 18th and 19th centuries to the present and showing evidence of a shift from birds with northerly affiliations to the arrival and increase of southern species. With continuing changes in climate, this trend has been accelerating in recent years and will likely continue to do so. But not all of this traffic has been continuous or even one-way. There was a movement of southern birds into Long Island early in the last century that faded out and, more recently, some northern birds have extended their ranges to the south; notice will be taken of these exceptions to the rule.

Eric Salzman (es@ericsalzman.com) is a composer, known for his innovative work in music theater (a genre between opera and the musical); his latest recording, "Jukebox in the Tavern of Love", was a commission from the Western Wind Vocal Ensemble which recorded it for Labor/Naxos. He is a long-time resident of East Quogue on a family property on Weesuck Creek and Shinnecock Bay; it was the presence of birdlife in the area's woods and wetlands that inspired his interest in natural history and Long Island birds. He has served as a nature columnist for the Southampton Press, an editor for Birding Magazine (American Birding Association), a board member of the South Fork Natural History Museum (SOFO) as well as a contributor to the Linnaean Society Newsletter, The Kingbird, and the new edition of "Bull's Birds of New York State". His blog, "The View From Weesuck Creek", chronicles bird life and other forms of local natural history. ~~His wife, Lorna, is a well-known environmentalist.~~

Bald eagles nesting on Long Island

Michael S. Scheibel, The Nature Conservancy

The return of the Bald Eagle (*Haliaeetus leucocephalus*) as a nesting species in the

Long Island region and throughout New York State is one of the most successful wildlife restoration stories of our time. Presented here is the history and current status of Bald eagle nesting on Long Island, natural history information including nest sites, courtship, nesting chronology, food preferences and longevity. In 1976, the Endangered Species Unit of the New York State Department of Environmental Conservation, led by Peter Nye undertook a thirteen year restoration project using a process known as "hacking" to re-establish a breeding population of eagles in the state. Reasons for their decline and current threats will also be discussed.

Michael S. Scheibel (mscheibel@tnc.org) is the Natural Resources Manager for The Nature Conservancy of Long Island, at the Mashomack Preserve, Shelter Island, NY. He received his B.S. degree in Wildlife Science from Cornell University in 1971, worked for nearly 20 years as a Senior Wildlife Biologist for NYSDEC specializing in endangered species projects on Long Island. Mr. Scheibel helped develop the Long Island Colonial Waterbird Survey in the early 1980's and collected data which led to the listing of the Piping Plover and the Least Tern as "endangered" in NYS. He also served as the NY representative on the federal Roseate Tern Recovery Team from 1988 – 1999.

Coyotes on Long Island: a participatory framework for planning ahead

Mark Weckel, PhD, Center for Biodiversity and Conservation, American Museum of Natural History

Long Island, NY is one of last large land masses in the continental U.S. yet to support a breeding population of northeastern coyotes (*Canis latrans var*.) Recent evidence of dispersing individuals on the island, coupled with the momentum of coyote range expansion across North America, suggests a Long Island coyote population is close at hand. We highlight the fleeting opportunity to take advantage of this natural experiment by developing a multidisciplinary research framework to investigate the ecological and social impacts of the coyote, pre- and post- range expansion. Most importantly we explore how citizen science can help in predicting likely areas for coyote colonization and the central role citizen data can play in tracking the establishment and growth of a Long Island coyote population. We will introduce WildSuburbia Long Island, an web-based tool for recording anecdotal canid observations from NYC & Long Island.

Dr. Mark Weckel (mweckel@amnh.org) is a conservation scientist whose work has focused on human-wildlife interaction and conflict, particularly of urban and suburban landscapes. Mark received his master's degree from Fordham University where he studied jaguar feeding ecology, and for his doctoral research, he investigated the management and population biology of suburban white-tailed deer populations. While pursuing his PhD, Mark was employed at the Mianus River Gorge

in Westchester County, NY where he developed a research-based mentoring program for high school students interested in ecology. Most recently, Mark completed his postdoctoral research and teaching fellowship with the American Museum of Natural History's Center for Biodiversity & Conservation and Youth Initiatives. Here, he continued to develop research projects, including the Gotham Coyote Project, and opportunities for youth engagement, focused on New York City wildlife. Mark is currently Manager of the Science Research Mentoring Program at the AMNH where NYC high school students have the opportunity to join ongoing research projects lead by AMNH scientists.

An evaluation of management, urbanization, and isolation on grassland biodiversity within the Atlantic coastal pine barren ecoregion

Polly L. Weigand, Suffolk County Soil and Water Conservation District

The Atlantic Coastal Plain grasslands are culturally iconic and globally rare ecosystems that provide critical habitat for a diverse array of flora and fauna within a highly urbanized, isolated and fragmented landscape. While ecological value of many of these grasslands has been recognized through preservation and restoration, persistence in the landscape requires regular anthropogenic intervention to retrogress succession and suppress invasive species encroachment. The influence of historic land use legacies, site attributes, management regimens, urbanization and isolation on the floral diversity of the Atlantic Coastal plain grasslands will be highlighted to help advance and refine future conservation and management of these globally imperiled ecosystems.

Polly Weigand (Polly.Weigand@SuffolkCountyNY.gov) is a Senior Soil District Technician with the Suffolk County Soil and Water Conservation District and is the Executive Director of the Long Island Native Plant Initiative. She is currently finalizing her Masters of Science degree in Urban Ecology from Hofstra University. Polly earned her Bachelors of Science degree in Environmental Studies and Biology from St. Lawrence University in Canton N.Y. In addition, Ms. Weigand maintains professional accreditation as a Northeast Certified Crop Advisor. Her wealth of professional experience on Long Island ranges from wildlife management, marine fisheries, water quality monitoring and farmland planning to habitat restoration, plant propagation, and invasive species policy and management.

FIELD TRIPS SUNDAY, MARCH 22

ALEWIFE SPAWNING RUN
Little Peconic River 10 am – noon

Join retired NYSDEC Fisheries Biologist Byron Young for a first-hand look at the amazing Alewife, a type of river herring that plays a crucial ecological role in both freshwater and saltwater environments. The program will discuss the current status of fish passage on Long Island and the Peconic River alewife run. Several Alewives will be caught to collect biological data and learn key identification features.
Meet at the Suffolk County parking lot on County Road 51 under the solar panels. We will cross CR 51 to access the Woodhull dam on the Little Peconic River, where Alewives congregate on the downstream side of the dam.
Fee: $12 (Members: $10)

Reservations are required and must be made at www.longislandnature.org

SEAL OBSERVATION WALK
Cupsogue Beach County Park 1 pm – 3 pm
Join **Dr. Artie Kopelman** of CRESLI on a walk to learn about, observe, and photograph seals at Cupsogue Beach ParK. CRESLI seal walks at Cupsogue Beach County Park (at the western end of Dune Road in Westhampton Beach) will depart from area near the fence at the western end of the parking lot. The walks are approximately 1.3 miles round trip and take about 2 hours. Meeting times are 15 minutes prior to departure. These walks are suitable for children.

Reservations are required and must be made at http://www.cresli.org/cresli/reservations/seal_walk_reservations.html or via sign-up sheet at the Long Island Natural History Conference CRESLI table.Suggested donation of $5 per adult and $3 per child under 18.

READING WILDLIFE TRACK & SIGN EVALUATION
Manorville area 8:30 am–4:30 pm

Instructor: **George Leoniak** www.leoniaktracking.com
This field trip is an evaluation led by George Leoniak (one of the six CyberTracker evaluators in North America) provides participants the opportunity to pursue Track and Sign Level I Certification from CyberTracker Conservation, a globally recognized non-profit that established the international standard for assessing wildlife tracking and sign skills.

In wildlife research and monitoring, natural sign surveys are an effective means of collecting data on the presence, range, and distribution of animal species. However,

there are concerns about the integrity of the data from these types of surveys. In response to these concerns, the CyberTracker Conservation Evaluation System was designed to establish reliable, standardized tracking skills.

This field trip is open to naturalists, environmental and outdoor educators, amateur trackers, citizen scientists, professional biologists, and students (minimum age of 16) seeking to increase their wildlife tracking and observation skills, and sign knowledge. Over 50 naturalists took this popular program on Long Island in spring 2014, including well-known environmentalist Dr. Betty Borowsky, Associate Professor of Biology at Nassau Community College, who had this to say about the program: *"I enjoyed the course a very great deal. It opened my eyes to the richness of information that tracks and signs can reveal--if you know how to read them. I look forward to learning more."*

Fee: $130 ($117 for LINO members).
For more information or questions contact Mike Bottini at mike@mikebottini.com or 631-267-5228.

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