



8th Biennial Research Conference
9:00 am to 5:00pm, 2 November, 2019

Conference Day Program

9:00 – 9:30am: Coffee and Refreshments

9:30 - 9:40am: *Opening Remarks:* Sarah Treanor Bois: Chair, NBI

Session 1: 9:40-11:00am

Session Chair: Sarah Treanor Bois

9:40 – 10:00am **NORTHERN LONG-EARED BAT HABITAT USE ON NANTUCKET, MA**
Danielle O’Dell¹

¹Nantucket Conservation Foundation, Nantucket MA

10:00 - 10:20am **MERCURY LEVELS IN FRESHWATER FISH: ESTIMATING CONCENTRATION WITH FISH LENGTH TO DETERMINE EXPOSURES THROUGH FISH CONSUMPTION**

Callum Hoyt Backstrom¹, Kate Buckman¹, Emily Molden², Celia Y. Chen¹

¹Dartmouth College, Hanover, NH; ²Nantucket Land Council, Nantucket, MA

10:20 - 10:40am **HORSESHOE CRAB POPULATION TRENDS OVER A 10 YEAR STUDY ON NANTUCKET**
Libby Buck¹

¹Nantucket Conservation Foundation, Nantucket, MA

10:40 - 11:00am **BREEDING SEASON AND LARVAL DEVELOPMENT VARIABILITY OF POND BREEDING FROGS ACROSS NEW ENGLAND**

Scott Smyers¹

¹Oxbow Associates, Inc., Acton, MA

11:00-11:45am *Morning Break: Poster Session* with Coffee and Refreshments

Session 2: 11:45 – 12:45pm

Session Chair: Peter Brace

11:45 - 12:05pm **DRONE MONITORING OF SALT MARSH STRUCTURE**
Peter R. Burn¹, Scott Lusier², Robert Buchsbaum³.

¹ Biology Department, Suffolk University, Boston, MA; ²CUES, Suffolk University, Boston, MA; ³Massachusetts Audubon Society, Wenham, MA

12:05 - 12:25pm **AN ECOLOGICAL SURVEY OF HITHER CREEK TO DETERMINE THE SUITABILITY AS A SHELLFISH HABITAT**

Valerie Hall¹ and Chloe Coggins Carey²

¹Maria Mitchell Association, Nantucket, MA; ²Madaket Marine, Nantucket, MA

12:25 - 12:45pm **MARITIME HABITAT DIVERSITY ON THE SANDY NECK BARRIER BEACH SYSTEM, BARNSTABLE, MA**

Donald G. Schall¹, Pamela T. Polloni², and Nina Z. Coleman³

¹Botanical Club of Cape Cod and the Islands; ²MBLWHOI Library Herbarium; ³Town of Barnstable Cape Cod

12:45 - 1:50pm: *Lunch Break: Poster Session*

Session 3: 1:50-2:40pm
Session Chair: RJ Turcotte

- 1:50 - 2:10pm** NANTUCKET'S NEGLECTED HERBIVOROUS INSECTS, YEAR NINE
Charles S. Eiseman¹ and Julia A. Blyth^{1,2}
¹Northfield, MA; ²Maria Mitchell Association
- 2:10 - 2:30pm** EVALUATION OF THE VERTEBRATE CARRION RESOURCES USED BY THE AMERICAN BURYING BEETLE (*NICROPHORUS AMERICANUS*).
Brandon M. Quinby¹, Elizabeth A. Flaherty¹, and J. Curtis Creighton²
¹Purdue University; ²Purdue University Northwest
- 2:30 - 2:50pm** THE MACROINVERTEBRATE STREAM FAUNA OF NANTUCKET
Greg Whitmore
- 2:50-3:40pm** *Afternoon Break: Poster Session and Refreshments*

Session 4: 3:40 – 4:40pm
Session Chair: Danielle O'Dell

- 3:40 - 4:00pm** ECOLOGICAL QUESTIONS ABOUT GENETICALLY ENGINEERING WHITE-FOOTED MICE TO COMBAT LYME DISEASE ON NANTUCKET
Allison A. Snow¹
¹Ohio State University, Columbus, OH
- 4:00 – 4:20PM** REVISITING THE PALEONTOLOGY OF NANTUCKET
Jessica D. Cundiff¹, Scott Smyers², Andrew McKenna-Foster³, Joe Martinez¹ and Scott Egan⁴
¹Harvard University; ²Oxbow Associates, Inc.; ³Maria Mitchell Association; ⁴AECOM.
- 4:20 - 4:40pm** AN OVERVIEW OF NANTUCKET'S FIRST OYSTER RESTORATION PROJECT: PLANNING, IMPLEMENTATION, AND MONITORING
Leah K. Cabral¹
¹Town of Nantucket Natural Resources Department, Nantucket, MA

Closing Remarks: Karen Beattie, Co-Chair, Conference Organizing Committee

Cocktail Reception and Mixer 5:30 – 7:30
The Lemon Press
41 Main Street, Nantucket

Posters Presentations

THE PRESENCE OF MICROPLASTICS IN GRAY SEALS (*HALICHOERUS GRYPUS*) AT A NANTUCKET SOUND HAUL-OUT

Jack Barkowski¹, Juanita Urban-Rich¹, Stephanie Wood¹, Julianne Darnell¹
¹University of Massachusetts, Boston

THE SANDPLAIN GRASSLAND NETWORK: A REGIONAL PARTNERSHIP AMONG RESEARCHERS AND MANAGERS TO ADVANCE THE UNDERSTANDING AND EFFECTIVENESS OF THE MANAGEMENT OF SANDPLAIN GRASSLANDS

Karen Beattie¹, Sarah Bois², Russ Hopping³, Jennifer Karberg¹, Karen Lombard⁴, Chris Neill⁵, Polly Weigand⁶, Robert Wernerehl⁷, Michael Whitemore⁸.
¹Nantucket Conservation Foundation, Nantucket, MA, ²Linda Loring Nature Foundation, Nantucket, MA, ³The Trustees, North Andover, MA, ⁴The Nature Conservancy, Northampton, MA, ⁵Woods Hole Research Center, Woods Hole, MA, ⁶Long Island Native Plant Initiative, Hampton Bays, NY, ⁷Massachusetts Natural Heritage & Endangered Species Program, Westborough, MA, ⁸The Nature Conservancy, Martha's Vineyard, MA

PRELIMINARY PLANNING FOR WETLAND RESTORATION AT WINDSWEPT CRANBERRY BOG, NANTUCKET ISLAND, MA.

Karen C. Beattie¹, Jennifer M. Karberg¹, Danielle I. O'Dell¹, Kelly A. Omand¹ and Elizabeth C. Buck¹
¹Nantucket Conservation Foundation, Nantucket, MA

PHENOLOGICAL RESPONSE TO EARLIER SPRING: OPPORTUNITIES AND CHALLENGES IN A CHANGING CLIMATE

Sarah T. Bois¹
¹Linda Loring Nature Foundation, Nantucket, MA

ISLAND-WIDE COLLABORATION FOR INVASIVE PLANT MANAGEMENT TO SUPPORT LOCAL ECOSYSTEMS

Elizabeth C. Buck¹, Kelly A. Omand^{1,2}, Sarah T. Bois^{2,3}
¹Nantucket Conservation Foundation, ²Nantucket IPSC Co-Chair, ³Linda Loring Nature Foundation

CANCELLED: MONITORING OF PHYSICAL HABITAT, WATER PHYSICAL-CHEMICAL CHARACTERISTICS, AND BIODIVERSITY OF TEMPORARY FRESHWATER POOLS (VERNAL POOLS) OF NANTUCKET ISLAND, MASSACHUSETTS

Catherine E. Colliton¹ and Alan D. Christian¹
¹University of Massachusetts Boston

DIET OF GRAY SEALS (HALICHOERUS GRYPUS) IN NANTUCKET SOUND AS DETERMINED BY OTOLITHS FOUND IN SCAT

Julianne Darnell¹, John Barkowski¹, Stephanie Wood¹, Juanita Urban-Rich¹
¹University of Massachusetts Boston

CANCELLED: INVESTIGATING JUVENILE RIVER HERRING PRODUCTIVITY IN NANTUCKET PONDS: INSIGHTS FOR POND MANAGEMENT

Matthew T. Devine^{1,3}, Paul Norwood^{1,3}, Emily Molden², Allison H. Roy^{1,3,4}, and Adrian Jordaan¹
¹University of Massachusetts Amherst, MA, ²Nantucket Land Council, Nantucket, MA, ³Massachusetts Cooperative Fish and Wildlife Research Unit, University of Massachusetts Amherst, Amherst, MA, ⁴U.S. Geological Survey

VEGETATION OF RETIRED CRANBERRY BOGS OF SOUTHEASTERN MASSACHUSETTS

Haley Miller^{1,2}, Anastasia Pulak², Lily Thomson², Pamela Polloni³, Michael Whittemore⁴, Donald Schall⁵, and Christopher Neill^{2,1}
¹Marine Biological Laboratory, Woods Hole, MA, ²Woods Hole Research Center, Falmouth, MA, ³Woods Hole Oceanographic Institution, Woods Hole, MA, ⁴The Nature Conservancy, West Tisbury, MA, ⁵Botanical Club of Cape Cod and the Islands, Woods Hole, MA

EMPIRICAL TESTING OF THEORETICAL PREDICTIONS ON THE CAPE COD ISLANDS AND MAINLAND

Patrick Pearson¹ and Stephen Rich¹
¹Laboratory of Medical Zoology, UMass Amherst, MA



**Nantucket Biodiversity Initiative
8th Biennial Research Conference
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