

Adam D. Smith

U.S. Motus Director • American Bird Conservancy • asmith@abcbirds.org

Education

2013	PhD	University of Rhode Island, Kingston, RI; Environmental Science (Avian Ecology)
2006	MS	Boise State University, Boise, ID; Raptor Biology
2000	BS	Murray State University, Murray, KY; Wildlife Biology, <i>summa cum laude</i>

Professional Appointments and Experience

2022-2023	U.S. Motus Director, American Bird Conservancy
2015-2022	Quantitative Ecologist, U.S. Fish & Wildlife Service
2013-2015	Postdoctoral Fellow, University of Rhode Island
2005-2007	Avian Research Technician III, Kentucky Department of Fish & Wildlife Resources

Recent Publications

- **Smith, A.D.**, F.J. Sanders, K.L. Lefevre, J.M. Thibault, K.S. Kalasz, M.C. Handmaker, F.M. Smith, and T.S. Keyes. 2023. Spring migration patterns of red knots in the Southeast United States disentangled using automated telemetry. *Scientific Reports* 13:11138.
- Sanders, F.J., **A.D. Smith**, J.M. Thibault, D.L. Carter, M.C. Handmaker, and F.M. Smith. 2023. South Atlantic Bight—a final stop for Ruddy Turnstones migrating to the Arctic. *Journal of Field Ornithology* 94:5.
- Moorman, M.C., Z.S. Ladin, E. Tsai, **A. Smith**, A. Bessler, J. Richter, R. Harrison, B. Van Druten, W. Stanton, C. Hayes, B.W. Harris, M. Hoff, C. Sasser, D.M. Wells, J. Tupacz, and N. Rankin. 2023. Will they stay or will they go—understanding south Atlantic coastal wetland transformation in response to sea-level rise. *Estuaries and Coasts*.
- Kellner, K.F., **A.D. Smith**, J.A. Royle, M. Kery, J.L. Belant, and R.B. Chandler. 2023. The 'unmarked' R package: Twelve years of advances in occurrence and abundance modelling in ecology. *Methods in Ecology and Evolution* 14:1408-1415.
- Carter, W.A., S.F. Pearson, **A.D. Smith**, S.R. McWilliams, and D.J. Levey. 2021. Seasonal and interspecific variation in frugivory by a mixed resident-migrant overwintering songbird community. *Diversity* 3:314.
- Evans, K., **A.D. Smith**, and D. Richardson. 2021. Statistical power of mobile acoustic monitoring to detect population change in southeastern U.S. bat species, a case study. *Ecological Indicators* 125:107524.
- Loring, P.H., A.K. Lenske, J.D. McLaren, M. Aikens, A.M. Anderson, Y. Aubrey, E. Dalton, A. Dey, C. Friis, D. Hamilton, B. Holberton, D. Kriensky, D. Mizrahi, L. Niles, K.L. Parkins, J. Paquet, F. Sanders, **A. Smith**, Y. Turcotte, A. Vitz, P.A. Smith. 2021. Tracking movements of migratory shorebirds in the U.S. Atlantic Outer Continental Shelf Region. Sterling (VA): US Department of the Interior, Bureau of Ocean Energy Management. *OCS Study BOEM 2021-008*. 104 p.
- McGowan, C., W. Wiest, N. Angeli, N. Rankin, E. Rivenbark, A. Schwarzer, C. Snyder, J. Woodrow, J. Wilson, R. Anthony, K. Barrett, C. Hand, N. Roach, T. Schneider, **A. Smith**, F. Smith, and B. Watts. 2020. Linking monitoring and data analysis to predictions and decisions for the range-wide eastern Black Rail status assessment. *Endangered Species Research* 43:209-222

Todd Alleger

Atlantic Flyway Motus Coordinator – American Bird Conservancy – Talleger@abcbirds.org

EDUCATION

B.Sc. - 2011 - University of Vermont, Rubenstein School of Natural Resources - Wildlife Biology

PROFESSIONAL EXPERIENCE

2023 - present - American Bird Conservancy

Atlantic Flyway Motus Coordinator

- Support US Motus Director in development of Motus WTS array in Atlantic Flyway through project support, development of guidance documents and instructional manuals.

2020 - 2023 - Willistown Conservation Trust/Northeast Motus Collaboration

New England Motus Installation Coordinator

- Managed site selection, evaluation, design, installations, and maintenance for the Interior New England Motus Array (53 stations).
- Evaluation using ArcGIS, contacted landowners and conducted pre-installation site visits.
- Managed equipment budget, acquisition and inventory, scheduled installations, and lead installation crews.
- Oversaw project metadata (Motus project #48), maintained dataflow quality from SensorGnome and SensorStation Receivers, assisted with development of station and receiver troubleshooting protocols.
- Assisted in grant writing for maintenance funding including USFWS State Competitive Wildlife Grant (2018 - 2022).

2016 - 2020 - Willistown Conservation Trust/Northeast Motus Collaboration

Project Technician

- Technical assistant for multiple large-scale receiver-based Motus efforts in Pennsylvania and Mid-Atlantic states
- Instructed at Motus technical workshops alongside colleagues at Powdermill Avian Research Center (2018-2022), assisted other researchers and organizations in Motus project planning and implementation
- Developed instructional materials for Motus collaborators (equipment budgets, SensorGnome build instructions)
- Continued duties as Avian Research Assistant: Bander-in-Charge at songbird and Northern Saw-Whet Owl migration and MAPS banding stations, assisted in Wood Thrush nano tagging effort, public outreach and education on bird banding, conservation, and agroecology.

2015 - 2019 - Willistown Conservation Trust

Agroecology Project Coordinator – Rushton Farm Preserve

2012 - 2014 - Willistown Conservation Trust

Bird Conservation Consultant

PRESENTATIONS & WORKSHOPS

Todd Alleger, Lucas Berrigan, Adam Smith, Alison Fetterman, Jon Rice, Mallory Sarver, & Aaron Coolman. Congrats on installing Motus stations...now what? Maintenance, data collection, and Troubleshooting tips for Motus Wildlife Tracking Stations. American Ornithological Society, August 8-12, 2023.

Luke DeGroote, Todd Alleger, & Alison Fetterman. Introduction to Motus WTS: project planning, equipment, and data management. American Ornithological Society, July 22-27, 2019.

Todd Alleger & Luke DeGroote. SensorGnome for Motus WTS Techniques: Construction and Troubleshooting. American Ornithological Society, July 22-27, 2019.

Lisa Kiziuk, Dave Brinker, Scott Weidensaul, Alison Fetterman, & Todd Alleger. Building a Northeastern Wildlife Tracking Network – The Northeast Motus Collaboration. Eastern Bird Banding Council Conference, March 24-26, 2017.



Stephen P. O'Malley

**President, Engineer
Ocean Tech Services, LLC**

Education and Training

B.S. Civil and Environmental Engineering, University of Massachusetts, 1998

MA Professional Engineer in Training (EIT) - 1998

Woods Hole Oceanographic Institution, 1988-1998

Professional Experience

**2007 – Present,
Ocean Tech Services, Cape May, NJ and Pocasset, MA – President, Engineer**

- Direct support of renewable energy projects: design, site assessment, permitting and regulatory compliance programs
- Design and management of marine geophysical surveys, site clearance surveys, geologic sampling projects
- Provide marine environmental monitoring systems and services, including the design, delivery installation and operation of meteorological and oceanographic monitoring systems at U.S. and foreign ports and harbors.
- Identify market opportunities, develop proposals, and negotiate contracts for providing marine environmental monitoring systems and services.

**2009 – 2016
Fishermen's Energy, Cape May, New Jersey - Environmental Director**

- Direct site assessment projects relevant to characterization of the US offshore windfarm sites. Work includes wind resource evaluation, geophysical and geotechnical surveys, oceanographic conditions studies, fish, mammal, avian, bat and benthic surveys
- Direct all permitting and regulatory compliance activities (USACE, BOEM, NMFS, DEP)
- Work with topic area experts to develop scope of work, project plans, and deliverable definitions in accordance with regulatory and engineering design requirements
- Lead development of cost reducing innovations in avian and marine mammal detection, turbine wake interactions and foundation structure instrumentation
- Manage all field operations activities and perform review, critique and acceptance of final reports and data deliverables

**1999 – 2007
Woods Hole Group, Inc., Falmouth, Massachusetts - Engineer/Project Manager**

- Managed a wide range of marine site assessment and environmental engineering projects, including project proposal development, project design, implementation, data analysis and reporting
 - Managed and conducted hydrographic surveys, benthic and vibratory coring, and marine instrumentation projects
 - Performed hydrographic and sonar mapping studies, instrumentation of port and harbor facilities, and instrumentation of offshore oil drilling rigs.
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**1987 – 1999 Woods Hole Oceanographic Institution, Woods Hole, MA - Research Assistant III,
Department of Geology and Geophysics,**

- Performed a wide range of coastal marine data collection analysis and reporting tasks related to coastal processes and geomorphology
- Prepared data acquisition instrumentation for deployment, installed equipment at domestic and international coastal project locations
- Served on WHOI Quick Response Dive Team and provided small research vessel operational support to other department projects

Relevant Publications

“Real-Time Current Measurements Improve Vessel Safety and Port Efficiency” Sea Technology Magazine – February 2009,. S. O’Malley and C. McGrath

“Tidal Circulation and Flushing Characteristics of the Nauset Marsh System” – Woods Hole Oceanographic Institution, Technical Report #97-11, D..G, Aubrey, G. Voulgaris, W. Spencer, S. O’Malley, July 1997

“Field Data Acquisition and Results of Hydrodynamic Flushing Study of the Rio Formosa, Algarve, Portugal” – Woods Hole Oceanographic Institution, Technical Report #97-021, D..G, Aubrey, G. Voulgaris, W. Spencer, S. O’Malley, December 1997

Synergistic Activities

Memberships:

Marine Technology Society
Marine and Oceanographic Technology Network

Conferences

BOEM Offshore Wind Project Certification Workshop, Washington, DC – March 2011
AWEA Offshore Wind 2010, Baltimore, MD - October 2011
AWEA Wind Resource Assessment Conference, Seattle WA – December 2012
AWEA Offshore Wind 2013, Providence, RI - October 2013
BOEM Workshop on Metocean Data Collection Standards, Washington, DC – May 2014
AWEA Offshore Wind Power 2015, Baltimore, MD - October 2015
International Offshore Wind Partnering Forum – Warwick, RI – April 2017
Mass Clean Energy Center – MA Offshore Supply Chain Conference – May 2017

Training

Basic Offshore Safety Induction and Emergency Training (BOSIET) – May 2017
Confined Space Entry for Offshore Facilities – May 2017
Global Wind Organization (GWO) Medical – May 2017
Hypack User Training, Woods Hole, MA – Nov 1998, New Orleans, LA – March 2009
Chesapeake Technologies SonarWiz User Training, Charleston, SC – Nov 2011
EdgeTech Advanced User Training, Side Scan and Sub-Bottom Systems – October 2014



Carl Johnsen

Subsea Engineer

Education

B.Sc. Geology – Northeastern University, 1995

Professional Experience

July 2019 – Present

Ocean Tech Services, Pocasset, MA – Subsea and Integration Engineer

- Integrates oceanographic, wind resource, and biological instrumentation to operate on offshore buoys or harborside stations
- Performs service on floating lidar systems offshore
- Operates side scan sonar instrumentation and ROVs for seabed surveys

September 2015 – August 2018

Nortek USA Inc., Boston, MA – Integrated Systems Project Manager

- Integral member of a sales & service team serving academic, commercial & governmental customers throughout the Americas & Caribbean.
- Maintained a sales pipeline for acoustic Doppler instruments (ADCP/ADV) & underwater navigation product line (DVL).
- Resident expert for real-time integrated oceanographic measurement system applications.
- Prepared project proposals, budgets, & engineered system designs.
- Supervised & mentored junior level staff.

April 2014 – September 2015

DOF Subsea USA Inc., Houston, TX – Senior Survey Engineer

- Survey operations manager within an integrated team of underwater intervention engineers, surveyors & subsea infrastructure experts installing, repairing & maintaining subsea pumps & manifolds, subsea umbilicals, risers & flowlines, catenary mooring systems, & pipelines.
- Electro-mechanical integration of acoustic navigation & positioning sensors, oceanographic & hydrographic survey instrumentation & hydraulic tooling on ROV.
- Survey operations manager responsible for logging on-line survey measurements, geomatic data, & underwater video observations.
- Survey measurement QA/QC, data reduction, generating charts, maps, electronic presentations & reporting to offshore managers.

December 2011 – March 2014

Odyssey Marine Exploration, Tampa, FL – Senior Surveyor

- Survey operations technical leader on team of scientists & engineers conducting seafloor mapping & marine environmental assessments for seafloor mineral resource exploration.
 - Collected & processed oceanographic & marine environmental measurements; hydrographic surveying; sediment sampling, coring & geotechnical (CPT) sampling; water column & benthic sampling
 - ROV survey sensor integration, launch & recovery.
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February 2000 – September 2008**Woods Hole Group, Falmouth, MA – Field Oceanographer**

- Planned and executed oceanographic, hydrographic, coastal geologic & marine environmental surveys.
- Program manager for the operation & maintenance of the NOAA NY & NJ Harbor and Narragansett Bay PORTS (Physical Oceanographic Real-Time System).
- Integration, installation, & maintenance of: oceanographic & meteorological sensors; wireless telemetry components; bottom-mounted, shore- attached & buoy mounted electro-mechanical deployment systems.
- Contributing scientist on coastal geomorphological and shoreline change analysis projects collecting and analyzing synoptic topographic and hydrographic data.
- Subsurface geologic characterization using ground penetrating radar (GPR) and soil borings/cores.

Certifications and Trainings

TWIC Card Holder – exp. February 2026

GWO Sea Survival Training - ENSA, Survival Systems USA

Groton, CT – October 2020

Forklift Operators License, Class 4&5 – New England Industrial Truck, Inc.

Pocasset, MA – March 2020

BOSIET-HUET (with Emergency First Aid) – RelyOnNutech

Houston, TX – July 2019

OGUK Medical Certificate

July 2019

Confined Space Entry Training – 360 Training

Online Course – April 2020

Association of Reciprocal Safety Councils, Inc. – Basic Plus (8/2016)

Brazosport Safety Council, Sweeny Refinery/Phillips 66 – Level 1 (8/2016), Level 2 (8/2016)

IADC RigPass/SafeGulf (7/7/2014)

OSHA CPL 2-2.51 Post Emergency Spilled Oil Cleanup (7/2010)

OSHA 40hr HAZWOPER (10/2008)

STCW Sea Survival and Safety (2004)

OSHA 10hr Construction Safety & Health (2003)

COMTRAIN Tower Climbing Safety & Rescue (2002)

AMS-Project Planning, Management, and Control (2001)

IANTD Enriched Air Nitrox Diver (1996)

NAUI Open Water SCUBA Diver (1996)



Benjamin Riker

Marine Operations Supervisor

Education

B.A. Environmental Science – University of North Carolina Wilmington, 2010

Professional Experience

March 2012 – Present

Ocean Tech Services, Cape May, NJ – Sr. Operations and Technical Specialist

- Technical lead in mooring design, deployment, O&M, and recovery of floating LIDAR and other buoy systems.
- Supply a full suite of side scan sonar services, including sonar data acquisition, post-processing and report writing.
- Provide marine environmental monitoring systems and services, including the design, delivery installation, and operation and maintenance of meteorological and oceanographic monitoring systems.
- Direct support of renewable energy projects, including site and resource assessment and permitting tasks.
- Identify market opportunities, develop proposals, and negotiate contracts for providing marine environmental monitoring systems and services.
- HSE Lead for all field and offshore operations; ensures personnel are properly trained for required activities; prepares RAMS and other HSE documentation

March 2012 – December 2016

Fishermen's Energy, Cape May, New Jersey – Environmental Monitoring Technician

- Fully monitor, maintain, and manage (including system deployment, service, and recovery) all site and resource assessment equipment including meteorological surface buoys, floating LIDAR platforms, land-based LIDAR systems, and meteorological masts.
- Manage and handle data acquired by various resource assessment devices.
- Assist in permitting and regulatory compliance activities (USACE, BOEM, NMFS, DEP).
- Engage with industry partners on various projects designed to validate the use of LIDAR technology for wind resource assessment in the offshore wind industry.
- Conduct research activities relative to resource assessment equipment and offshore wind generating facilities.
- Perform reporting tasks on installations, inspections and services, and various other activities relative to resource assessment equipment and manage all equipment inventory.

May – August 2009

Fishermen's Energy, Cape May, New Jersey – Research Associate (Internship)

- Catalogued an archive of books, reports, and documents at the Rutgers Marine Field Station in Tuckerton, NJ.
 - Collected, reviewed and evaluated archived data and documents (i.e. wind maps, current maps, temperature maps, tidal maps, local habitat, etc.) for their useful relevance to the offshore site selection due-diligence process.
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May – August, 2009–2011

Cape Kayaks, Cape May, New Jersey – Eco-tour Tour Guide

- Responsible for the health and safety of all patrons of the kayak eco-tour.
- Identified various marine flora and fauna and migratory shorebirds.
- Educated customers on the natural process and relationships found in the marsh ecosystem.

Training and Certificates

TWIC Card Holder – exp. March 2024

Secure Worker Access Consortium (SWAC) card holder

Rigger Signalman – 360 Training

Online course – March 2021

GWO Basic Safety Training – ENSA, Survival Systems USA

Groton, CT – October 2020

GWO Sea Survival Training - ENSA, Survival Systems USA

Groton, CT – October 2020

First Aid, CPR, and AED training – Medic First Aid, Survival Systems USA

Groton, CT – October 2020

OSHA 29 CFR 1910.178 Material Handling Operator Qualification and Certification – CHSS

Cinnaminson, NJ – January 2018

Basic Offshore Safety Induction and Emergency Training (BOSIET) – FALCK Safety Services

Houma, LA – April 2017

Confined Spaces Entrant/Assistant Training – FALCK Safety Services

Houma, LA – April 2017

Oil & Gas United Kingdom (OGUK) Medical Certificate – All Industrial Medical Services

Houma, LA – April 2017

CR1000 Data Logger and LoggerNet Software Training – Campbell Scientific Inc.

Logan, UT – December 2014

SonarWiz5 User Training – Chesapeake Technology Inc.

Wilmington, NC – December 2013

Advanced User Training, Side Scan and Sub-Bottom Systems – EdgeTech

New Bedford, MA – September 2013

Power Actuated Tool Operator – Hilti

Clermont, NJ – July 2013

Secure Worker Access Consortium (SWAC) card holder

Conferences and Workshops

International Offshore Wind Partnering Forum 2016, *Newport, RI – October 2016*

AWEA Offshore Wind Power 2014, *Atlantic City, NJ – October 2014*

AWEA Offshore Wind Power 2013, *Providence, RI – October 2013*

BOEM Workshop, Offshore Wind and Fisheries, *Ocean City, NJ – February 2013*

BOEM Workshop, Offshore Wind and Fisheries, *Virginia Beach, VA – October 2012*

AWEA Offshore Wind Power 2012, *Virginia Beach, VA – October 2012*

Lisa Kiziuk (Director of Bird Conservation)

Willistown Conservation Trust (WCT)/Northeast Motus Collaboration

Newtown Square, PA

Telephone: 610-331-5072

Email: lkr@wctrust.org

- **WCT Position: Director of Bird Conservation and Founding Partner of the Northeast Motus Collaboration** – Senior-level staff member at a land trust, managing all aspects of a bird conservation program. Served as a founding partner and project manager of the Northeast Motus Collaboration since 2016. Facilitate the installation and maintenance of over 150 motus stations throughout the northeastern United States. As a federally licensed bird bander, manages the Rushton Woods Bird Banding Station, which includes a migratory passerine program, a MAPS (Monitoring Avian Productivity and Survivorship) program, and a Northern Saw-whet Owl research program in partnership with Project OwlNet. Manages bird banding training, education, and public outreach for bird conservation. Manages research and conservation projects using the Motus Wildlife Tracking Program for the following species: Bobolink (*Dolichonyx oryzivorus*), Eastern Meadowlark (*Sturnella magna*), and Eastern Towhee (*Pipilo erythrophthalmus*) and Wood Thrush (*Hylocichla mustelina*).

Education

- 2004 Master of Environmental Studies with a concentration in Conservation Biology, University of Pennsylvania, Philadelphia, PA
- 2000 Selected coursework in Secondary Science Education Master Program, Saint Joseph's University, Philadelphia, PA
- 1989 B.A. Business and Economics, Lafayette College, Easton, PA

Recent Experience:

- 2011-present **Director of Bird Conservation, Willistown Conservation Trust, Newtown Square, PA.** Senior-level staff member at a land trust, managing all aspects of a bird conservation program. Project manager for the Northeast Motus Collaboration, founded in 2016. Facilitate the installation and maintenance of over 150 motus stations throughout the northeastern United States. As a federally licensed bird bander, manages the Rushton Woods Bird Banding Station, which includes a migratory passerine program, a MAPS (Monitoring Avian Productivity and Survivorship) program, and a Northern Saw-whet Owl research program in partnership with Project OwlNet. Manages bird banding training, education, and public outreach for bird conservation. Manages research and conservation projects using the Motus Wildlife Tracking Program for the following species: Bobolink (*Dolichonyx oryzivorus*), Eastern Meadowlark (*Sturnella magna*), and Eastern Towhee (*Pipilo erythrophthalmus*) and Wood Thrush (*Hylocichla mustelina*).
- 2006-2011 **Stewardship Manager, Willistown Conservation Trust, Newtown Square, PA.**
- 2006-present **Adjunct Professor, University of Pennsylvania, Philadelphia, PA.** Master of Environmental Studies Program.

Alison Fetterman (Bird Conservation Associate/Northeast Motus Project Manager)

Willistown Conservation Trust (WCT)/Northeast Motus Collaboration

Newtown Square, PA

Telephone: 610-331-5072

Email: avf@wctrust.org

- **WCT Position: Bird Conservation Associate and Northeast Motus Project Manager -**
Staff member in Bird Conservation Program at a land trust. A federally licensed bird bander for a migratory songbird program, MAPS breeding birds, and migratory NSWO station responsible for data management, analysis of banding data and annual reports for public outreach and education. Coordinate a volunteer bird monitoring program such as recruiting and maintaining members as well as creating summary reports for landowners. As a founding member of the Northeast Motus Collaboration, Responsible for coordinating the creation of a wildlife telemetry network of receiver stations in five states to track multi-taxa migration. Assess station locations by topography, accessibility, and land ownership using ArcGIS on-line. Manage communications between all groups involved; and be the ongoing technical point-of-contact for landowners and/or responsible parties; and renew permits as needed. Monitor the health of all mid-Atlantic stations within the NEMC remotely, updating the team's receiver status map and communicating with the collaboration as needed.

Education:

- 2016 Master of Environmental Studies with a concentration in Conservation Biology, University of Pennsylvania, Philadelphia, PA
- 2001 Bachelor of Arts in Biology with a concentration in Ecology and Evolution, Clark University, Worcester, MA

Recent Professional Experience:

2013-present **Bird Conservation Associate and Northeast Motus Project Manager**, *Willistown Conservation Trust, Newtown Square, PA*

2016-present **Department of Earth and Environmental Studies Adjunct Lecturer**, *University of Pennsylvania, Philadelphia, PA*

2013-2015 **Wildlife Biologist Aide, Marsh bird survey coordinator**, *Pennsylvania Game Commission (PGC), Harrisburg, PA*

2007 **Avian Point Count Specialist**, *Powdermill Avian Research Center, Rector, PA*

2001-2006 **Avian Ecologist, Point Blue (formerly PRBO)**, *Petaluma, CA*

Publications:

2020-2022. Rushton Woods Banding Station Songbird Banding Annual Report.

<https://wctrust.org/research/>

2018. Habitat Quality for Stopover Migrants at Rushton Woods Preserve, Chester County, Pennsylvania. *Cassinia* 76: 43-51.

Aaron Coolman (Motus Technician & Avian Ecologist)

Willistown Conservation Trust (WCT)/Northeast Motus
Collaboration
Newtown Square, PA
Telephone: 419-349-1119
Email: asc@wctrust.org

WCT Position: Motus Technician & Avian Ecologist – Installs and maintains Motus receiving stations throughout the northeastern United States and maintains Motus stations stretching from Virginia Beach to central Maine. Assists with field research using automated radio telemetry and bird banding.

Education 2016 B.S., The Ohio State University, Agriculture

Recent Experience:

2021-present **Motus Technician & Avian Ecologist** *Willistown Conservation Trust* – Order supplies and maintain inventory, basic accounting, monitor station network health remotely, travel to Motus station sites for installations and site preparation, annual station maintenance visits and repairs, written progress reports, and generates capacity for partners such as Birds Caribbean. Coordinates Motus station network building and maintenance with partners including state agencies (wildlife and public service), non-profit organizations, and landowners/land managers.
Member of the banding crew at Rushton Woods Banding Station and assist with field research under the supervision of our Motus Avian Research Coordinator. Tasks include species surveys and field trapping using mist nets and walk-in traps, tagging and color-marking birds. Participates in ongoing banding and Motus tagging research programs. Has experience placing nano-tags on Bobolink (*Dolichonyx oryzivorus*), Eastern Meadowlark (*Sturnella magna*), and Eastern Towhee (*Pipilo erythrophthalmus*).

2022-2023 **Sales Associate, part-time**, *Recreational Equipment Inc*, King of Prussia, PA.

2021-2021 **Resident Owl Bander** *Maine Natural History Observatory/Project OwlNet* – Conduct banding operations at a remote migratory Northern Saw-whet Owl station on a nightly basis for a five-week period. Managed facilities for staff housing.

2021-2021 **Field Technician Volunteer**, *Michigan Audubon, Whitefish Point Observatory* – Constructed, mounted, and located nest boxes for Northern Saw-whet Owls throughout the Upper Peninsula of Michigan.

2021-2021 **Biological Science Technician**, *United States Fish and Wildlife Service* – Management duties on Refuge and Wetland Management District units.

2019-2021 **Lead Sales Associate**, *Recreational Equipment Inc*, Columbia, Maryland.

2016-2019 **Gardens Manager**, *Professional Gardeners LLC*, DC & North VA.

Volunteer Positions:

Trapped birds and collected data for the Maryland Coastal Bays Program.
Participated in point count surveys and re-sighting of marked birds for the Delaware Shorebird Project.
Served as a tree climber and provided field support for the Northern Goshawk Project.

Evan M. Adams, Ph.D.

Biodiversity Research Institute, Portland ME

Telephone: 207-839-7600 x204

Email: evan.adams@briwildlife.org



Education: 2014 Ph.D., University of Maine, Ecology & Environmental Sciences
2007 M.S., University of Florida, Wildlife Ecology and Conservation
2004 B.A., Whitman College, Biology

Experience 2021 - present Director of the Quantitative Wildlife Ecology Research Lab, Biodiversity Research Institute, Portland, ME
2015 - 2021 Quantitative Ecologist, Biodiversity Research Institute
2015 - 2017 Post-doctoral Researcher, University of Washington, Seattle, WA
2010 - 2015 Migratory Bird Program Director, Biodiversity Research Institute

Selected Products:

- Gulka, J., Berlin, A.M., Friedland, K.D., Gilbert, A.T., Goetsch, C., Montevecchi, W.A., Perry, M., Stenhouse, I.J., Williams, K.A. and **Adams, E.M.**. 2023. Assessing individual movement, habitat use, and behavior of non-breeding marine birds in relation to prey availability in the US Atlantic. *Mar Ecol Prog Ser*, 711, 77-99.
- Friedland, K.D., **Adams, E.M.**, Goetsch C., Gulka, J., Brady, D.C., Rzeszowski, E., Crear, D.P., Gaichas, S., Gill, A.B., McManus, M.C., Methratta, E.T., Morano, J.L., Staudinger, M.D. 2023. Forage fish species prefer habitat within designated offshore wind energy areas in the U.S. Northeast Self Ecosystem. *Marine and Coastal Fisheries*, *Marine and Coastal Fisheries*, 15(2), p.e10230.
- Fournier, A.M.V, Wilson, R.R., Gleason, J.S., **Adams, E.M.**, Brush, J.M., Cooper, R.J., DeMaso, S.J., Driscoll, M.J.L., Frederick, P.C., Jodice, P.G.R., Ottinger, M.A., Reeves, D.B., Seymour, M.A., Sharuga, S.M., Tirpak, J.M., Vermillion, W.G., Zenzal, T.J., Lyons, J.E., Woodrey, M.S. 2023. *Structured Decision Making To Prioritize Regional Bird Monitoring Needs* INFORMS Journal on Applied Analytics doi: 10.1287/inte.2022.1154
- Adams, E.M.**, I.J. Stenhouse, A. Gilbert, J. Boelsma, G. Gress, C. Grigsby, E. Williams, L. Phillips, C. McIntyre. 2022. The first documentation of the Nearctic-Paleotropical migratory route of the Arctic Warbler. *Ecology and Evolution* 12(9):e9223.
- Adams, E.M.**, J. Gulka, and K.A. Williams. 2021. Examining the effectiveness of blanket curtailment strategies in reducing bat fatalities at terrestrial wind farms in North America. *PloS One*, 16(11), p.e0256382.
- Saunders, S.P., J.X. Wu, E.A. Gow, **E.M. Adams**, B.L. Bateman, T. Bayard, S. Beilke, A.A. Dayer, A.M. Fournier, K. Fox, and P. Heglund. 2021. Bridging the research-implementation gap in avian conservation with translational ecology. *The Condor*, 123(3), p.duab018.
- Paruk, J.D., I.J. Stenhouse, B.J. Sigel, **E.M. Adams**, W.A. Montevecchi, D.C. Evers, A.T. Gilbert, M. Duron, D. Long IV, J. Hemming, and P. Tuttle. 2019. Oiling of American white pelicans, common loons, and northern gannets in the winter following the Deepwater Horizon (MC252) oil spill. *Environmental Monitoring and Assessment* 191(Suppl 4): 817.
- Sussman, A.L., B. Gardner, **E. M. Adams**, L. Salas, K.P. Kenow, D.R. Luukkonen, W.P. Muller, K.A. Williams, M. Leduc-Lapierre, and E.F. Zipkin. 2019. A comparative analysis of common methods to identify waterbird hotspots. *Methods in Ecology and Evolution* 10(9):1454-1468.

Andrew Gilbert, M.S. (Spatial Ecologist)

Biodiversity Research Institute, Portland ME

Telephone: 207-839-7600 x205

Email: Andrew.gilbert@briwildlife.org



BRI Position: **Senior Geospatial Scientist/Technology Director** – Oversees staff responsible for the development and quality control of databases, GIS and geospatial analysis, and management of IT services for the organization. Works with advanced technology for science advancement. Designs research projects, writes proposals, conducts field research, and publishes results.

Education 2001 M.S., University of Maine, Wildlife Ecology
 1995 B.A., Bowdoin College, Chemistry and Anthropology

Recent Experience:

2022-present **Senior Geospatial Scientist/Technology Director** *Biodiversity Research Institute* – Conducts spatial exposure and risk analysis of offshore marine birds, develops offshore wind-related decision support tools (IDIOMS for Motus systems, SCRAM for CRM modeling) using advanced web-enabled platforms to deliver science products and applications. Oversees Motus system upgrades and development.

2011-2022 **Data Management/IT Director** *Biodiversity Research Institute* – Manages large, complex geospatial data, creating scripts in Python, R, and javascript to efficiently process, analyze, and map data. Developed a mobile seabird survey application (SeaScribe). Processed boat and high-res. aerial survey data for modeling and mapping. Tested a stereo-optic camera system for monitoring avian-turbine interactions.

2007-2011 **Seabird Biologist**, *U.S. Geological Survey, Patuxent Wildlife Research Center* – Created the NW Atlantic Seabird Catalog, a database of seabird survey data of more than 250,000 observations. Developed and managed a Postgresql relational database with complex spatial queries to output data for modeling and mapping.

2001-2007 **Biologist**, *U.S. Geological Survey, Patuxent Wildlife Research Center* – Conducted an inventory of terrestrial mammals at 10 national parks in the northeast. Led all aspects of fieldwork and analysis. Managed a field team to conduct wetland monitoring in Acadia National Park.

Select Publications:

Adams, E.M., I.J. Stenhouse, **A. Gilbert**, et al. 2022. The first documentation of the Nearctic-Paleotropical migratory route of the Arctic Warbler. *Ecology and Evolution* 12(9):e9223.

Stenhouse, I.J., A Berlin, **A Gilbert**, et al. 2020. Assessing the exposure of three diving bird species to offshore wind areas on the U.S. Atlantic Outer Continental Shelf using satellite telemetry. *Diversity & Distributions* 00: 1-12.

Goyert H, B Gardner, R Veit, **A Gilbert**, et al. 2018. Evaluating habitat, prey, and mesopredator associations in a community of marine birds. *ICES Journal of Marine Science*. 75:5:1602-1612.

Goyert, H, B Gardner, R Veit, **A Gilbert**, et al. 2016. Predicting the offshore distribution and abundance of marine birds with a hierarchical community distance sampling model. *Ecol. Apps*. 26(6): 1797-1815.

Sollmann, R, B Gardner, K Williams, **A Gilbert**, & R Veit. 2016. Investigating the abundance and distribution of seabirds using a community distance sampling model. *Methods in Ecology & Evolution* 7(5): 529-537.

Friedland, K, J Manning, J Link, J Gilbert, **A Gilbert**, & A O'Connell. 2012. Variation in wind and piscivorous predator fields affecting the survival of Atlantic salmon in the Gulf of Maine. *Fisheries Manag. & Ecology* 19: 22-35.

Kathryn A. (Kate) Williams, M.S.

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BRI Position: **Director of the Center for Research on Offshore Wind and the Environment.** Designs and implements studies of animal distributions and movements focused on understanding impacts from wind energy development. Manages large-scale interdisciplinary research studies. Manages and provides technical support for collaborative stakeholder engagement efforts focused on environmentally responsible offshore wind energy development.

Education: 2007 M.S., University of Florida, Wildlife Ecology and Conservation
2004 Dual B.S., Tufts University, Biology & Environ. Sci. (*magna cum laude*)

Recent Grants and Awards:

2022-2027 Project WOW (Wildlife and Offshore Wind): A Systems Approach to Research and Risk Assessment for Offshore Wind Development from Maine to the Carolinas (Department of Energy and Bureau of Ocean Energy Management)

2021-2023 Technology Needs for Scientifically Robust Wildlife Monitoring and Adaptive Management (National Offshore Wind Research and Development Consortium)

2019-2022 Development of Monitoring Protocols for Nanotag Studies at Offshore Wind Farms (NYSERDA)

2019-2022 Multi-scale Relationships Between Marine Predators and Forage Fish (NYSERDA)

2019-2020 Meta-analysis of the Effectiveness of Curtailment at Different Cut-in Speeds in Reducing Bat Mortality (American Wind Wildlife Institute's Wind Wildlife Research Fund)

2017-2028 Support for NYSEDA's Efforts to Advance Environmentally Responsible Development of Offshore Wind Energy (NYSEDA)

Recent Publications and Reports:

Williams, K., et al. In press. Research Priorities for Sound and Vibration Effects on Fishes and Aquatic Invertebrates From Offshore Wind Energy Development. In: The Effects of Noise on Aquatic Life: Principles and Practical Considerations. A. Popper et al., eds.

Loring, P., E. Adams, A. Gilbert, **K. Williams**, et al. 2023. Monitoring Protocols and Guidance for Automated Radio Telemetry Studies at Offshore Wind Farms. Available at motus.org/groups/atlantic-offshore-wind/

Brunbauer, M., K. McClellan Press, **K.A. Williams**, et al. 2023. Effective Stakeholder Engagement for Offshore Wind Energy Development: The State of New York's Fisheries and Environmental Technical Working Groups. Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science 15:e10236.

Gulka, J., A.M. Berlin, K.D. Friedland, A.T. Gilbert, C. Goetsch, W.A. Montevecchi, M. Perry, I.J. Stenhouse, **K.A. Williams**, E.M. Adams. 2023. Assessing individual movement, habitat use, and behavior of non-breeding marine birds in relation to prey availability in the US Atlantic. Mar Ecol Prog Ser 711: 77–99.

Goetsch, C., J. Gulka, K.D. Friedland, A.J. Winship, J. Clerc, A. Gilbert, H.F. Goyert, I.J. Stenhouse, **K.A. Williams**, et al. 2023. Surface and subsurface oceanographic features drive forage fish distributions and aggregations: Implications for prey availability to top predators in the US Northeast Shelf ecosystem. Ecology and Evolution 13:e10226.

Croll, D.A., et al. (incl. **K.A. Williams**). 2022. Framework for assessing and mitigating the impacts of offshore wind energy development on marine birds. Biological Conservation 276: 109795

Popper, A.N., et al. (incl. **K.A. Williams**). 2022. Offshore wind energy development: Research priorities for sound and vibration effects on fishes and aquatic invertebrates. Journal of the Acoustical Society of America 151(1):205–215.

Adams EM, J Gulka, **KA Williams**. 2021. A review of the effectiveness of operational curtailment for reducing bat fatalities at terrestrial wind farms in North America. PLoS ONE 16(11): e0256382.

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Charlestown, RI 02813
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EDUCATION:

Ph.D. 2016 Environmental Conservation, University of Massachusetts Amherst
M.S. 2012 Biological and Environmental Sciences, University of Rhode Island
B.S. 2006 Wildlife & Fisheries Conservation, University of Massachusetts Amherst

PROFESSIONAL APPOINTMENTS:

2016-Present Wildlife Biologist, U.S. Fish and Wildlife Service, Charlestown, RI
2012-2016 Biological Tech (Pathways), U.S. Fish and Wildlife Service, Hadley, MA
2011-2012 Biological Tech (Pathways), U.S. Fish and Wildlife Service, Charlestown, RI

SELECT REPORTS AND PUBLICATIONS:

New York State Energy Research and Development Authority (NYSERDA). 2022. "Development of Monitoring Protocols for Automated Radio Telemetry Studies at Offshore Wind Farms," NYSERDA Report Number 22-37. Prepared by **P.H. Loring**, U.S. Fish and Wildlife Service. nyserdera.ny.gov/publications

Loring P.H., Lenske A.K., McLaren J.D., Aikens M., Anderson A.M., Aubrey Y., Dalton E., Dey A., Friis C., Hamilton D., Holberton B., Kriensky D., Mizrahi D., Niles L., Parkins K.L. Paquet J., Sanders F., Smith A., Turcotte Y., Vitz A., Smith P.A. 2020. Tracking Movements of Migratory Shorebirds in the US Atlantic Outer Continental Shelf Region. Sterling (VA): US Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2021-008. 104 p.

Loring, P.H., J.D. McLaren, H.F. Goyert, H. Bai, P.W.C. Paton. 2020. Timing, atmospheric conditions, and routes of Atlantic coast Piping Plovers during fall migration. Condor 122(3):duaa028.

SYNERGISTIC ACTIVITIES:

Department of Energy Project WOW External Advisory Board (2022-present)
NYSERDA Regional Synthesis Committee (2021-present)
RWSC Bird and Bat Sub-Committee (2021-present)
Motus Wildlife Tracking System Steering Committee (2016-present)
Atlantic Flyway Shorebird Initiative Executive Committee (2013-present)