New Member Application – Nonfederal Partner

Desert Southwest Cooperative Ecosystems Studies Unit

August 2024

Proposal Submitted by:

Dustin E. Meattey
Waterfowl Program Director, CESU Project Manager

Lucas Savoy
Deputy Director

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Submitted to:

Kathryn E. Stoner
Director – Desert Southwest CESU
The University of Arizona

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Formal Application Letter

August 20, 2024

Dr. Kathryn E. Stoner
Director – Desert Southwest CESU
The University of Arizona

Dear Dr. Stoner,

Biodiversity Research Institute (BRI) is asking for consideration to join the Desert Southwest Cooperative Ecosystems Studies Unit. BRI is a non-profit science organization with offices located in Portland, Maine. Our mission is to assess emerging threats to wildlife and ecosystems through collaborative research, and to use scientific findings to advance environmental awareness and inform decision makers.

BRI was founded in 1998 and has grown substantially over the years to more than 50 full-time employees. Collectively, we have expertise encompassing a wide biogeographic scope and deep breadth of scientific work. Over the years, we have focused on environmental contaminants and pollutants, wildlife habitat assessment, and assessing wildlife and ecosystem impacts of offshore wind energy development. BRI is currently an active member in the North Atlantic Coast, Great Lakes-Northern Forest, and Chesapeake Watershed CESU units.

The majority of our work is collaborative, either with other non-profit groups, government agencies, or universities across the United States and abroad. By working collectively, it allows BRI to share knowledge and exchange data. Through these associations, we are able to bring together new perspectives and work to solve relevant and pressing environmental issues facing various regions throughout the United States.

As a non-profit organization, we would bring a unique perspective to the DS-CESU, along with high caliber and robust science. I have attached our application to join the DS-CESU, which further explains BRI's mission and our expertise, as well as how we can contribute to DS-CESU's mission and vision. You will also find additional supplemental material highlighting selected relevant reports and manuscripts and examples illustrating our work translating science into non-technical work on our website www.briwildlife.org.

Please review the enclosed application for consideration into the DS-CESU. If additional information is needed, please feel free to contact me directly at (207)-839-7600 ext. 207.

Sincerely,

Dustin Meattey

August 20, 2024

NAVFAC PWD-ME EV
Natural Resource Program
Portsmouth Naval Shipyard
Bldg 59, 3rd Floor
Kittery, ME 03854

To: Cooperative Ecosystem Studies Units Network

From: Ian Trefry, NAVFAC PWD-ME Natural Resource Program Manager

Biodiversity Research Institute (BRI) is applying for membership into the Desert Southwest Cooperative Ecosystem Studies Unit. As part of the application process, a letter sponsoring the new partner from a federal organization is required. The Naval Facilities Engineering Command, Public Works Department Maine (NAVFAC PWD-ME) Natural Resource Program has partnered with BRI for almost a decade and strongly supports their application into the Cooperative Ecosystem Studies Unit (CESU).

Over the course of this partnership, BRI has been awarded approximately $800,000 of Natural Resource Program funding. A few of the projects directly related to the mission of the CESU are:

- Protocol surveys for Canada Lynx (protected species)
- Mesocarnivore camera trap surveys
- Acoustic surveys for bats with focus on protected species
- Mist net surveys for bats with focus on protected species
- Aquatic species surveys including electrofishing, trapping, tagging and telemetry
- Environmental DNA (eDNA) sampling
- Annual shorebird monitoring with focus on red knot, piping plover and roseate tern.
- Monitoring Avian Productivity and Survivorship Surveys (MAPS)
- Migratory bird surveys using avian radar systems
- Bald eagle movement studies using satellite telemetry
- Pollinator species and habitat surveys
- Forest health monitoring
- Invasive species control
- Nuisance wildlife conflict resolution
- Raptor surveys (with banding and telemetry)
- Development of education and outreach program materials
- Bird and Bat Conservation Strategy plan development
- High elevation bird species survey (Mountain Birdwatch Program)

BRI has provided the Natural Resource Program with high-quality objective research and technical assistance that has been timely and relevant to program CESU objectives. Their technical expertise and ability to collaborate with natural resource agencies and institutions within our area of responsibility has been a great benefit. They have been integral in meeting Integrated Natural Resource Management Plan agreements with Sikes Act agency partners and have been an important partner for the NAVFAC PWD-ME Natural Resource Program.

If accepted into the Desert Southwest – CESU I anticipate that BRI could provide similar support and technical assistance to the overall mission of the CESU and vice versa. If you have any questions about anything in this letter, please contact me at the address above or via the email below.

Respectfully submitted,

Ian Wm Trefry

Ian Trefry
Natural Resource Program Manager
ian.w.trefry.civ@us.navy.mil

Initial Contact

Dustin Meattey, Waterfowl Program Director and CESU Project Manager at Biodiversity Research Institute (BRI) reached out to Dr. Kathryn Stoner about becoming associated with the Desert Southwest Cooperative Ecosystem Studies Unit (DS-CESU) in August 2024. In subsequent correspondence, Mr. Meattey received documents and guidance outlining the application process and interest in working with BRI to become affiliated with DS-CESU.

Formal Letter of Interest

The formal application letter is found on Page 3.

Statement of Interest and CESU Agreement

Biodiversity Research Institute would like to enroll in the Desert Southwest Cooperative Ecosystems Studies Unit. The preparer of this document, Dustin Meattey, has read the DS-CESU Cooperative and Joint Venture Agreement and agrees to support the CESU mission.

BRI Description and Primary Focus

Since its inception in 1998, Biodiversity Research Institute has prioritized the advancement of natural resource sciences in response to pressing ecological threats such as contaminants, habitat loss, climate change, and renewable energy development. We have consciously cultivated the expertise and resources needed to develop innovative study designs, achieve more precise analysis, and maintain objective and informative interpretation. In doing so, we have become a leading global provider of sound environmental assessments. BRI scientists have extensive experience collecting field data and providing quantifiable interpretation for several major sectors related to regulatory needs.

Mission Statement:

BRI's mission is to assess emerging threats to wildlife and ecosystems through collaborative research, and to use scientific findings to advance environmental awareness and inform decision makers.

Institutional Relevancy to CESU Activities

Biodiversity Research Institute has multiple research centers and programs relevant to federal land management, environmental science, and research agencies likely to be engaged in CESU activities. These are outlined in the following sections. Please note that only the most relevant are included here.

Research Centers

- Conservation and Climate Change
- Mercury Studies
- Offshore Wind and the Environment
- Waterbird Studies

Research Programs

- Arctic
- Climate Change
- Fisheries
- Loon
- Mammal
- Marine Bird
- Quantitative Lab
- Raptor
- Shorebird
- Songbird

- Tropical
- Waterfowl
- Wetlands
- Wildlife and Renewable Energy
- Wildlife Health

Associated Faculty and Expertise

The table below signifies the program directors at BRI that will contribute to the DS-CESU. Additional staff supervised by these directors will also contribute to specific projects. This list will be updated annually by the technical representative.

Table 1. Research center and program directors at BRI with research interests applicable to the DS-CESU.

Name	Position	Research Interests
David Evers, Ph.D.	Executive Director; Chief Scientist; Co-Director – Center for Mercury Studies	• Conservation of endangered species • Exposure and effects of methylmercury on wildlife in temperate, tropical, arctic, and marine environs • Ecology, natural history, and conservation of the Common Loon and other loon species
Lucas Savoy, B.S.	Deputy Director; Co-Director – Center for Waterbird Studies	• Loon and waterfowl conservation • Sea duck ecology and population delineation • Contaminant accumulation and impacts on loons and waterfowl
Wing Goodale, Ph.D.	Science Director	• Exposure and impacts of birds and bats to offshore wind energy development
Iain Stenhouse, Ph.D.	Co-Director – Center for Waterbird Studies; Director – Marine Bird Program	• Reproductive and behavioral ecology of marine birds • Long-distance migration in seabirds • Conservation of endangered avian species • Protection and restoration of important habitats
Chris DeSorbo, MSc.	Director – Raptor Program; Senior Research Biologist	• Raptor movement studies and applications to management and conservation decision-making • Identification and conservation of raptor aggregation areas • Evaluating relationships between raptors and anadromous fisheries
Tim Tear, Ph.D.	Director – Center for Climate Change and Conservation; Climate Change Program; Tropical Program	• Integration of natural climate solutions and ecosystem services • Return-on-investment and soil carbon • Endangered species, habitat restoration, and rewilding • Community-based conservation
Evan Adams, Ph.D.	Director – Quantitative Wildlife Ecology Research Lab	• Migratory physiology • Migratory bird conservation • Linkages among life stages in migratory animals • Ecological modeling and statistics

		• Avian population limitation • Landscape ecology • Individual tracking and movement
Micah Miller, Ph.D.	Director – Arctic and Loon Programs	• Migratory ecology and breeding biology • Waterfowl and seabird conservation • Arctic bird ecology • Wildlife toxicology
Josh Guilbert, Ph.D.	Director – Mammal Program; Acoustic Lab Co-Lead	• Chiroptera • Translocation • Population monitoring
Dustin Meattey, MSc.	Director – Waterfowl Program; CESU Project Manager	• Satellite telemetry • Waterfowl conservation • Environmental contaminants • Sea duck population ecology
Kevin Regan, MSc.	Director – Shorebird Program; International Bird Mercury Lead; Toxicology Lab Manager	• Migratory connectivity and habitat use of migrant shorebirds • Mercury exposure in birds associated with artisanal and small-scale gold mining • Effects of sea level rise on coastal breeding bird communities • Stopover feeding and roosting behavior in shorebirds
Kate Williams, MSc.	Director – Center for Research on Offshore Wind and the Environment	• Understanding the effects of anthropogenic stressors on wildlife • Understanding avian migratory patterns and trends
Tim Welch, B.S.	Director – Fisheries Program	• Environmental impacts studies • Radio telemetry studies of fish and furbearers • Fishway operations and fish passage efficiency studies at hydroelectric dams
Steve Knapp, B.S.	Director – Wetlands Program	• Wetland delineation and habitat assessment • Vernal pool identification and assessment • Wildlife and fisheries studies

Facilities, Equipment, and Centers

Biodiversity Research Institute has a single headquarters in Portland, Maine. Research Program directors and staff are well-outfitted with equipment and institutional support to perform research across a wide range of disciplines and geographic scope. Through a combination of donations, grants, and various project funding, BRI has acquired an impressive suite of specialized instrumentation ideal for wildlife and environmental science work. Some examples of the instrumentation and equipment that is available include:

- 5-6 outboard motorboats (14’-21’ length; 20-150 hp)
- Canoes and kayaks
- Snowmobiles (2) and enclosed trailer

- Polaris Ranger
- Various optics (binoculars, scopes)
- Misc. electronics (GPS, digital camera, 2-way radios, etc.)
- Telemetry gear (VHF, Motus, etc.)
- Misc. lab equipment (centrifuge, digital scales, etc.)
- Biological sampling equipment (needles/syringes, biopsy punches, etc.)
- Various Autonomous Recording Units (e.g., Wildlife Acoustics SM4)
- Trail cameras
- Backpack electrofishing equipment
- Fish nets and cages
- Bird and bat capture equipment (e.g., mist nets, harp traps, etc.)
- Geographic Information Systems (GIS) specialists with most current software
- Research drone
- Nippon Instruments Corporation MA-3000 Direct Mercury Analyzer
    - In-house analyses with reduced collaborator rates

Past Research, Technical Assistance, and Educational Services Relevant to CESU Activities

Table 2. List of past research, technical assistance, and educational services supported through federal financial assistance awards that are of relevance to federal land management, environmental, and research agencies that will be engaged in CESU activities. *Note that this is not an exhaustive list but is meant to exemplify our past experience with federal agencies and projects*.

Agency	Title	Amount
U.S. Fish and Wildlife Service	USFWS Common Eider Radio Telemetry – Maine	$10,000.00
U.S. Navy	Navy CESU Eagle Studies	$5,248.71
U.S. Department of State	Dept. of State Indonesia ASGM	$215,197.00
U.S. Navy	Navy CESU Cutler Bats	$14,172.00
U.S. Fish and Wildlife Service	USFWS NYSERDA Nanotags	$28,080.10
U.S. Navy	U.S. Navy CESU Bats – 2019	$40,176.25
U.S. Navy	U.S. Navy CESU Shorebirds	$23,346.99
U.S. Navy	U.S. Navy CESU Salmon/Fish	$51,670.26
U.S. Navy	U.S. Navy CESU Bats – 2020	$20,533.00
U.S. Navy	U.S. Navy CESU Lynx	$7,750.00

U.S. Fish and Wildlife Service	USFWS Loon Triage and Rafts	$197,000.00
U.S. Forest Service	WA Loon Capture – Colville National Forest	$2,650.00
National Park Service	Conserving White Nose Syndrome (WNS) Affected Bat Populations in Acadia National Park	$45,000.00
U.S. Fish and Wildlife Service	Pompton Lakes, New Jersey 2016 Current Condition Evaluation/Mercury Bioaccumulation Study	$225,850.68

Current Formal and Informal Agreements

Agency	Title	Amount
U.S. Navy	Species Surveys at Naval Installations in Maine (2021 Contract, 5-year PoP)	$582,000
U.S. Navy	Species Surveys at Naval Installations in Maine (2022 Contract, 5-year PoP)	$382,100
U.S. Fish and Wildlife Service	Development of Avian Collision Risk Models for Offshore Wind Development	$265,352
BOEM	Gulf of Maine Aerial Surveys	$948,658
U.S. Fish and Wildlife Service	Common Loon Conservation Studies	$522,774
U.S. Army	Fort Drum Motus Station	$11,618
U.S. Department of State	Environmental Mercury Sampling in Indonesia (Artisanal Small-scale Gold Mining)	$399,975
U.S. Fish and Wildlife Service	Aging Harvested Sea Ducks Using Pentosidine	$24,478

Acceptance of Limited Overhead

Biodiversity Research Institute accepts a limited overhead rate of 17.5% for activities conducted through the CESU.

Designation of Technical Representative

The technical representative to serve on the CESU steering committee, participate in CESU annual/semi-annual partner meetings, and facilitate internal and external communication, promotion, and response to CESU correspondence and administrative actions (e.g., announcements, new member applications, processing agreements/amendments, five-year reviews) is Dustin Meattey.

Dustin Meattey, MSc.
Waterfowl Program Director, CESU Project Manager
Biodiversity Research Institute
276 Canco Road
Portland, ME 04103
(207) 839-7600 ext. 207
dustin.meattey@briwildlife.org

Designation of Administrative Representative

The administrative representative who will oversee all grants and agreements, and to serve as the financial assistance point of contact is Sharon Oehmig.

Sharon Oehmig
Billing & Budget Manager
Biodiversity Research Institute
276 Canco Road
Portland, ME 04103
(207) 839-7600 ext. 237
sharon.oehmig@briwildlife.org

Relaying Agency-Specific Research, Technical Assistance, and Educational Needs

As Technical Representative for CESU-related activities, Dustin Meattey will lead the effort to relay all relevant CESU information to BRI staff.

Administrative Endorsement

I verify that I have the authority to commit institutional resources in a binding multiple-year federal cooperative joint venture agreement.

Lucas Savoy

Deputy Director
Biodiversity Research Institute
276 Canco Road
Portland, ME 04103