

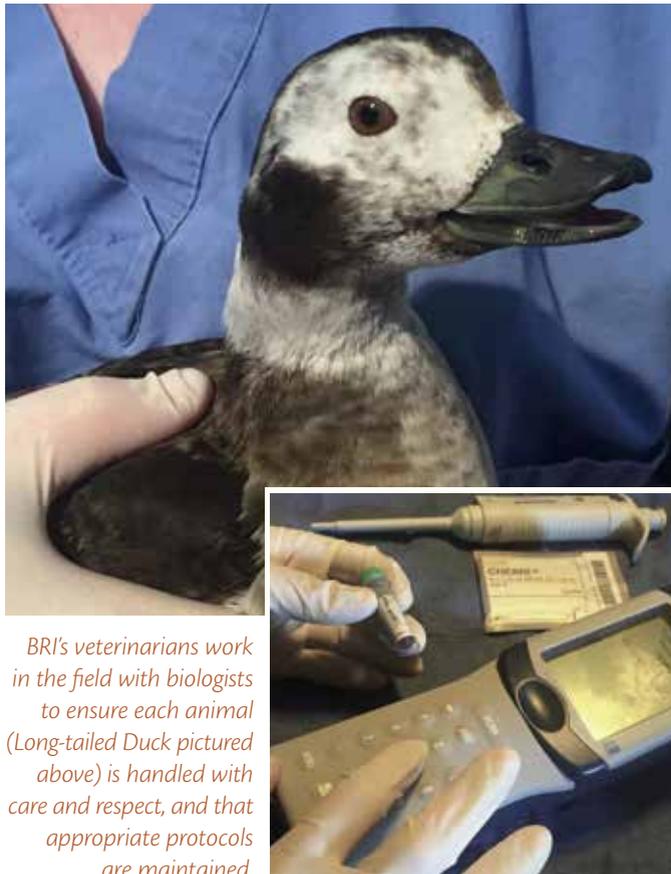
VETERINARY CONSULTING SERVICES

Project Consultation

BRI's wildlife veterinarians can assist with the planning and implementation of research and conservation projects. They can work with biologists to develop a health assessment plan that is custom designed for each project or species.

IACUC Protocol Development

Institutional Animal Care and Use Committee (IACUC) approval is an increasingly important part of wildlife research. IACUC oversight of studies involving free-ranging wildlife presents a unique set of challenges for both reviewers and researchers. BRI's wildlife veterinarians serve as IACUC members through the University of Southern Maine, and are experienced with the many considerations necessary for the humane, ethical, and legal conduct of wildlife research. We can assist researchers with protocol development for IACUC review, ensuring all relevant guidelines and requirements are met.



BRI's veterinarians work in the field with biologists to ensure each animal (Long-tailed Duck pictured above) is handled with care and respect, and that appropriate protocols are maintained.

BRI's WILDLIFE HEALTH PROGRAM

Addressing a Critical Need

The health of wild animals is increasingly recognized as an important aspect of wildlife conservation and management. Wildlife health is more than just the absence of disease—it is the ability of wildlife to thrive in a changing environment. The health and resiliency of wildlife are influenced by many factors such as genetics, physiological capacity, disease status, exposure to environmental threats, interactions with human populations, and climate.

Addressing emerging issues in wildlife health requires a progressive organization capable of crossing geographic, taxonomic, and disciplinary barriers. BRI's Wildlife Health Program provides veterinary services to governmental and nongovernmental organizations, universities, and research facilities.

One Health in Practice

One Health is the integrative effort of multiple disciplines working together to attain optimal health for people, animals, and the environment. BRI's wildlife veterinarians operate at the interface of wildlife, human, and ecological health. Through collaborations with biologists, veterinarians, physicians, ecologists, and wildlife professionals, BRI studies the effects of global environmental change on these health interrelationships to advance biodiversity conservation.

One Health Triad



For more information about One Health, visit:
www.onehealthinitiative.com



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Cover (clockwise from top left): Stock photo of mule deer, Big brown bat © BRI-Jonathan Fiely, Snowy Owl © Ken Archer, Stock photo of Eastern box turtle, Western Tanager © Ken Archer; **BRI's Wildlife Health Program Panel:** Infographic © One Health; **Veterinary Consulting Services Panel:** Long-tailed Duck © BRI-Michelle Kneeland; Following protocol © BRI-Michelle Kneeland; **Field Surgery Panel:** Michelle Kneeland with eider © BRI-Ginger Stout, Post surgery scoter © BRI-Michelle Kneeland; **Veterinary Services Panel:** White-winged Scoter in hand © BRI-Ginger Stout, Northern Gannet with satellite tag © BRI-Jonathan Fiely; **Wildlife Necropsy Panel:** Loon necropsy © BRI-Rick Gray, Toxicology lab © BRI-Deborah McKew; **Illustrations** by Shearon Murphy

BIODIVERSITY RESEARCH INSTITUTE

WILDLIFE HEALTH PROGRAM



 **AND**
VETERINARY SERVICES



FIELD SURGERY CAPABILITIES



BRI's Wildlife Health Program offers mobile surgical and anesthesia services for procedures such as internal transmitter implantation in avian and mammalian species. BRI's veterinarians specialize in surgical implantation of satellite transmitters in a variety of avian species, including:

- Common Eiders
- Common Loons
- Long-tailed Ducks
- Northern Gannets
- Red-throated Loons
- Surf Scoters
- White-winged Scoters



Fully equipped to offer the highest standard of veterinary care, our mobile surgical capabilities include gas anesthesia, respiratory and cardiac monitoring, sterile technique, and comprehensive pain management. BRI's veterinary team holds animal welfare as a top priority, following IACUC-approved protocols to ensure the best treatment of each animal and making every effort to minimize stress and discomfort.



VETERINARY SERVICES FOR FIELD WORK

BRI's wildlife veterinarians have extensive field experience working in a variety of locations in the United States and abroad. Our veterinarians can offer assistance with a variety of field needs, including:

- Safe and humane capture/handling of wildlife
- Chemical immobilization of wildlife (Safe-Capture International, Inc. certified)
- Obtaining blood and other samples
- Best practices for sample handling and storage
- Health assessment of captured animals
- Veterinary oversight for translocation/captive rearing projects
- Training for field staff
- Field necropsy

BRI's wildlife veterinarians have the mobility and flexibility to assist you on site, and are also available for remote consultation.



Satellite transmitters help track specific species such as the Common Eider (left panel, top), White-winged Scoter (left panel, bottom), and Northern Gannet (above) that migrate across marine environments. BRI veterinarians work with biologists to assess the health of little brown bats (top, this panel).

WILDLIFE NECROPSY



BRI's Wildlife Health and Pathology Lab

The Wildlife Health and Pathology Lab includes our in-house necropsy facility for post-mortem examination of wildlife, and enables in-house processing of samples for routine health evaluation such as hematology and parasite examination.

BRI's Wildlife Health Program offers necropsy services for other organizations. Our veterinarians can also provide on-site necropsy of larger species as well as training for biologists. By partnering with board-certified veterinary pathologists at collaborating institutions, we are able to expand our diagnostic capabilities for high-priority cases.

Necropsy is critical for identifying causes of mortality and collecting tissue samples for further toxicological and disease testing. Vital information gained through necropsy examination can help guide conservation efforts, disease surveillance, and future research.



BRI's Toxicology Lab

The Toxicology Lab provides analysis of tissue samples for total mercury and lead. Tissues such as feather, fur, blood, muscle, liver, talon tips, fish, and eggs can be analyzed for total mercury using our two Direct Mercury Analyzers. Whole blood and post-mortem body fluids can be analyzed for lead using our LeadCare® II analyzer.

ABOUT BRI

Biodiversity Research Institute (BRI), headquartered in Portland, Maine, is a nonprofit ecological research group whose 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 supports 10 research programs within three research centers including the **Center for Ecology and Conservation Research**, the **Center for Mercury Studies**, and the **Center for Loon Conservation**.

Within the Center for Ecology and Conservation Research, BRI manages the following programs:

Taxonomic

- Mammal Program
- Marine Bird Program
- Raptor Program
- Songbird Program
- Waterfowl Program

Ecosystems

- Arctic Program
- Tropical Program
- Wetlands Program

Environmental Issues

- Wildlife Health Program
- Wildlife and Renewable Energy Program



BRI has been conducting scientific inquiries for private sector and government clients nationwide and globally since 1998. Using both traditional and innovative approaches, our researchers collect, analyze, and interpret scientific results on how ecological stressors affect living systems.

By incorporating regional data and developing strategies for collecting additional data, BRI has effectively modeled such stressors on species and community distributions, phenology, adaptive strategies, and population viability across tropical, temperate, and arctic biomes.

For more information on our capabilities and services, visit: www.briloon.org/services