



Environmental Contaminants



Monitoring Effects of Contaminants on Wildlife

Early in its history, Biodiversity Research Institute (BRI) began monitoring mercury levels in loons. With more than two decades of experience, BRI is now a world leader in collecting, analyzing, and publishing data on the fate and transport of mercury and lead in ecosystems. Our expertise also includes investigations of historical or legacy contaminants such as polychlorinated biphenyls (PCBs), perfluorocarbons (PFCs), polybrominated diphenyl ethers (PBDEs), and polycyclic aromatic hydrocarbons (PAHs).

BRI scientists have comprehensive experience studying a range of wildlife—including invertebrates, herpetofauna, fish, mammals, and birds—to assess contaminants in various global ecosystems.

Natural Resources Damage Assessment (NRDA) and Superfund

BRI has established capabilities working with state and federal agencies to assess damage to natural resources due to contaminants exposure from industrial point source pollution with an emphasis on mercury and oil spills. BRI's role has been to implement neutral, third party field studies for governmental agencies and responsible parties at polluted sites. BRI's findings help determine which species are most at risk to contaminants, as well as provide information for regulatory needs by governmental agencies.

Our experience includes:

- Developing wildlife contaminant exposure profiles.
- Assessing risk (with USEPA) and injury (with USFWS and NOAA) from mercury contamination and oil spills across the United States.
- Assessment of mercury in a wide range of ecosystems from the Arctic to the tropics for a broad group of wildlife, including waterbirds, raptors and songbirds as well as bats, furbearers and seals.
- Assessments of PCBs and other legacy contaminants, as well as some of the emerging needs with PBDEs for both birds and mammals.
- Evaluating spatial and temporal patterns of mercury exposure in key bioindicators.
- Developing mercury effect levels for birds and mammals as needed by NRDA projects.

BRI's Wildlife Toxicology Laboratory

BRI provides analysis of tissue samples for total mercury using a Milestone Direct Mercury Analyzer–80r. Tissue samples we regularly analyze for total mercury concentration include feathers, fur, blood, muscle, and egg. Our sample processing capabilities include homogenizing samples using a centrifugal mill and freeze drying. Whole blood and post-mortem body fluids can be analyzed for mercury. Our lab is certified as a BSL-2.



PROJECT CONTACT

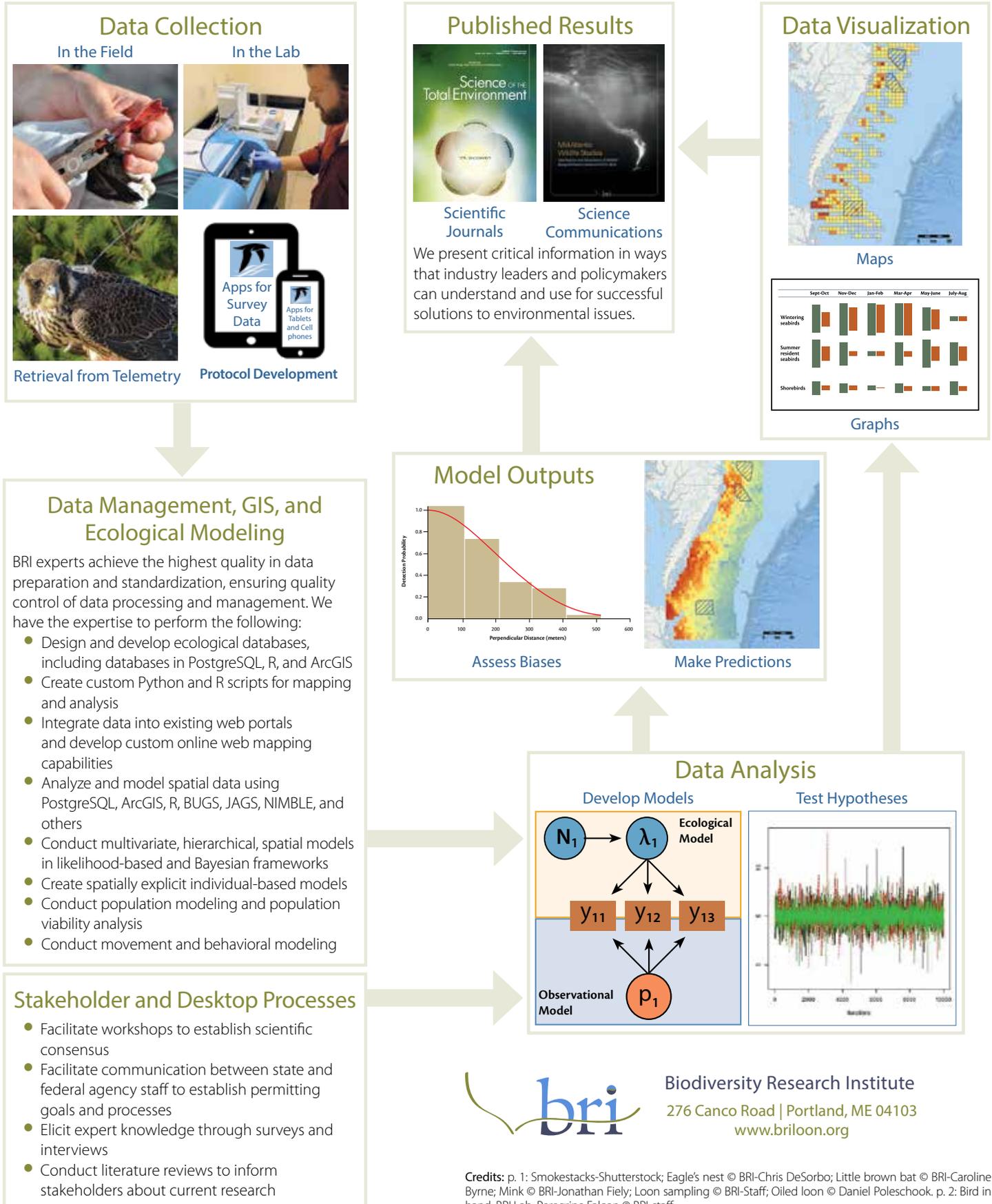
David Evers
david.evers@briloon.org

CONTRIBUTING STAFF

Chris DeSorbo–*Raptors* • Kevin Regan–*Lab Manager and Wetland Birds* • Amy Sauer–*Songbirds* • Lucas Savoy–*Waterbirds* • Dave Yates–*Mammals*

Data Science and Communication

BRI's reputation and integrity are founded on the quality of our work. Throughout every stage of the scientific process—from data collection, to analysis, interpretation, and dissemination—we follow strict protocols and adhere to best practices to provide decision makers with the most accurate information.



Biodiversity Research Institute
276 Canco Road | Portland, ME 04103
www.briloon.org

Credits: p. 1: Smokestacks-Shutterstock; Eagle's nest © BRI-Chris DeSorbo; Little brown bat © BRI-Caroline Byrne; Mink © BRI-Jonathan Fiely; Loon sampling © BRI-Staff; Oiled loon © Daniel Poleschook. p. 2: Bird in hand; BRI Lab; Peregrine Falcon © BRI-staff.