BRI’s Songbird Program

Since 1999, BRI biologists have been collecting scientific data to survey and monitor songbird populations using the most current biological sampling techniques. Our songbird staff includes state and federally permitted biologists. Many anthropogenic stressors affect songbirds; we are working to understand how contaminants, wind power development, climate change, and habitat alterations affect songbird ecology and demography.

Research Capabilities

Methods used to study songbird species on private, state, and federal lands throughout the United States include:

- Tracking (geolocators, satellite telemetry, ecological analysis and modeling)
- Surveying (point count and nest box surveys, Monitoring Avian Productivity and Survivorship [MAPS] stations)
- Sampling (live capture and banding, nonlethal blood and feather collection, contaminant analysis, stable isotope analysis, and health assessments)

Where We Work

We conduct research at diverse geographic locations to better understand the ecology, movements, and contaminant effects on a variety of songbird species, with an emphasis on neotropical migrants.

North America

United States:
- Alaska
- Florida
- Louisiana
- Maine
- Massachusetts
- Mississippi
- New Hampshire
- New Jersey
- New York
- Oregon
- Pennsylvania
- South Carolina
- Virginia
- Wyoming

Mexico

Central America:
- Belize
- Costa Rica
- Nicaragua
- Panama

Caribbean Islands:
- Puerto Rico

Songbird Program Director

Amy Sauer
amy.sauer@briloon.org

Program Staff: Evan Adams, Allie Byrd, Alex Dalon, Melissa Dunm, Andrew Gilbert, Sarah Johnson, Patrick Keenan, Robby Lambert, Oksana Lane, Dana Palm, Kevin Regan, Kate Williams

River Point Bird Observatory

In 2011, BRI initiated a long-term migratory bird banding station (spring and fall) in Falmouth, Maine. Since then, we have captured more than 12,000 birds. We also host student internships, training workshops, and community educational programs for students of all ages.

www.briloon.org/riverpoint


Collaborators (partial list): Cornell University, Harvard University, Smithsonian Institution, Syracuse University, The Nature Conservancy, and University of Michigan

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www.briloon.org/songbirds
BRI biologists have extensive experience investigating mercury exposure in songbird populations across North and Central America, including ongoing assessments under the U.S. Fish and Wildlife Service Natural Resource Damage and Assessment.

To date, BRI has captured and sampled more than 11,000 songbirds to study mercury concentrations in their populations. We also conduct studies on archived museum specimens to examine changes in environmental mercury loads over time. Cumulatively, these data provide critical information on species sensitivity, as well as geographic areas and habitats of greatest concern. A selection of representative songbird contaminant studies includes:

Regional Studies
- United States: Songbirds as indicators of mercury in National Wildlife Refuges and National Park ecosystems
- Central America and Caribbean Islands: Songbird mercury exposure in tropical ecosystems

Site-based Studies
- Florida: Tracking mercury loads in migrating songbirds
- Maine: Using mercury isotope ratios to understand methylmercury availability in Acadia National Park
- New Hampshire, New Jersey, New York, Massachusetts, Tennessee, Virginia: Risk assessment of mercury
- New Jersey and Virginia: Impacts of mercury on reproductive success of Carolina Wrens
- New York: Monitoring spatial gradients and temporal trends of mercury in songbirds; Mercury stable isotope analysis in Long Island and Adirondack songbirds
- Oregon: Relationships of forest management and songbird mercury exposure
- Virginia: Riverine mercury footprint study

Surveys
Using standardized biological survey methodologies, BRI biologists collect scientific data on various aspects of health, behavior, and life history of songbird populations through capture, marking, and monitoring studies. A selection of representative songbird survey projects includes:

- MAPS surveys at the U.S. Naval Base in Cutler, Maine—Monitoring Avian Productivity and Survivorship (MAPS) using standardized protocols
- River Point Bird Observatory—A long-term banding station in Falmouth, Maine, to monitor songbird populations during yearly migration, conduct MAPS surveys, and manage on-site nest box studies
- Survey and monitor cavity-nesting and breeding songbirds in sagebrush habitat, aspen stands, willow-riparian areas, and spruce-fir forests in Wyoming’s upper Hoback River Valley
- Develop demographic models for Painted Buntings

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:

- Marine Bird Program
- Songbird Program
- Waterfowl Program
- Arctic Program
- Tropical Program
- Wetlands Program
- Wildlife Health Program
- Wildlife and Renewable Energy Program
- Waterfowl Program
- Bird Program
- Raptor Program
- Songbird Program
- Waterfowl Program
- Marine Bird Program
- Songbird Program
- Waterfowl Program
- Arctic Program
- Tropical Program
- Wetlands Program
- Wildlife Health Program
- Wildlife and Renewable Energy Program