Bird Conservancy of the Rockies Awarded over $600,000 to Aid in the Restoration of Grassland Birds

Part of US National Science Foundation and the Paul G. Allen Family Foundation award of $16Min grants to support science-led conservation projects.

August 20, 2024 – [Fort Collins, CO] – The U.S. National Science Foundation and the Paul G. Allen Family Foundation today announced a $686,938 grant to Bird Conservancy of the Rockies to restore grassland bird populations by using genomically-informed, full annual cycle, integrated population models.

Combining data from breeding and non-breeding grounds of three declining grassland bird species into an integrated population model to help implement habitat management plans. The project will provide a model for other migratory systems with varying levels of demographic information to help prioritize conservation actions.

This research is one of 10 projects receiving funding under the Partnership to Advance Conservation Science and Practice (PACSP) program, a first-of-its-kind collaboration between the U.S. National Science Foundation and the Paul G. Allen Family Foundation. Now in its second year, the program is designed to catalyze deep collaboration between researchers advancing basic science and conservation partners engaging in on-the-ground conservation.

The projects focus on a range of species—from Grasshopper Sparrow and grizzly bears to Venus flytraps and Hawaiian honeycreeper—and the outcomes will have far-reaching implications for biodiversity and conservation, policy and the economy.

"The fundamental knowledge these projects create, even though related to specific species, will unlock innovative conservation efforts across a broader range of threatened species and ecosystems," said Lara Littlefield, executive director for programs and partnerships at the Paul G. Allen Family Foundation. "For instance, studying whether mosquitos infected with bacteria can limit the spread of malaria among birds in Hawaii could ultimately limit disease spread among other animals more broadly."

Each project extends basic science into on-the-ground conservation to address critical knowledge and data gaps, enabling greater real-world impact to benefit species and ecosystems.

"The unique partnerships this program creates forge a roadmap to broader conservation action by uniting the skills, expertise and tools needed to address the most urgent threats to our natural world," said Susan Marqusee, NSF assistant director for biological sciences. "These projects also will engage the public, policymakers, law enforcement and others in conservation through education, outreach and other broader impacts."

All awarded project focus areas include:

• Improving mosquito breeding to create non-viable offspring and thus reduce transmission of avian malaria to Hawaiian honeycreepers

• Improving forest fire management through study of Venus Flytrap as indicator species

• Creating a model to monitor long-term impacts of conservation actions on the genetic diversity of grizzly bear populations

• Disrupting illegal wildlife trade by enabling molecular identification of sharks, rays, and turtles

• Modeling ghost genes (genetic material historically transferred from extinct or nearly extinct species to living ones) of Gulf Coast canids

• **Restoring habitat of grassland birds through development of Integrated Population Model using data from breeding and non-breeding grounds of three declining species**

• Converting urban turf lawns to native plants to bolster ecosystem services and understand conservation potential

• Conserving stream biodiversity by studying the impact of climate and land use changes on the imperiled eastern hellbender, an Appalachian salamander species sensitive to low dissolved oxygen levels

• Developing AI for cost-effective wildlife identification, tracking, and behavior analysis for marine animals through study on manatees

• Using big data about the ecology of the Appalachian Mountains to co-develop migratory bird conservation efforts with landowners and land managers to balance habitat needs with community objectives

Learn more about the Partnership to Advance Conservation Science and Practice program and view the full list of awards and awardees by visiting nsf.gov.

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About Bird Conservancy of the Rockies

Bird Conservancy of the Rockies is a Colorado-based nonprofit that works to conserve birds and their habitats through an integrated approach of science, education and land stewardship. Our work extends from the Rockies to the Great Plains, Mexico and beyond. Together, we are improving native bird populations, the land and the lives of people. We envision a world where birds are forever abundant, contributing to healthy landscapes and inspiring human curiosity and love of nature. Visit birdconservancy.org for more information.

About U.S. National Science Foundation

The U.S. National Science Foundation propels the nation forward by advancing fundamental research in all fields of science and engineering. NSF supports research and people by providing facilities, instruments and funding to support their ingenuity and sustain the U.S. as a global leader in research and innovation. With a Fiscal Year 2024 budget of $9.06 billion, NSF funds reach all 50 states through grants to nearly 2,000 colleges, universities and institutions. Each year, NSF receives more than 40,000 competitive proposals and makes about 11,000 new awards. Those awards include support for

cooperative research with industry, Arctic and Antarctic research and operations, and U.S. participation in international scientific efforts.

About Paul G. Allen Family Foundation

Founded in 1988 by philanthropists Jody Allen and the late Paul G. Allen, co-founder of Microsoft, the foundation works to enhance the arts and culture experience, mobilize young people to drive change, and advance science and technology solutions that address wildlife conservation, ocean health and climate change. The foundation also funds cutting-edge research in all areas of bioscience though the Paul G. Allen Frontiers Group.