NATURE LOUISIANA
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Karen Gautreaux © TNC

Director's Note

Especially this time of year, I am filled with gratitude when I think about our work protecting Louisiana's lands, waters and wildlife. As we share here, protecting our state's unique natural landscape begins with science. Before we forge a trail, plant a tree or plan an event at one of our nature preserves, we evaluate the plants, animals and ecosystems to inform a strategy for the property's long-term protection. That process often includes scientists from other organizations whose expertise enhances our knowledge. Here, we highlight some of our nature preserves that are doing double duty as living laboratories. At this time of thanksgiving, we are grateful for everyone who makes this work possible.

See you outside,

Karen Gautreaux, State Director

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A Nicholls State University researcher measures a crawfish. © Alexa Ballinger

Louisiana's Living Laboratories

TNC's preserves invite scientific research on behalf of Louisiana nature.

From Grand Isle to Allen Parish, The Nature Conservancy's preserves regularly host scientists researching a variety of topics across Louisiana. They're studying a unique colony of box turtles inhabiting a coastal chenier forest at TNC's Lafitte Woods Preserve on Grand Isle. And they tagging prothonotary warblers at our Cypress Island Preserve to learn how they navigate wind turbines situated in the Gulf during annual migration.

Elsewhere, in the heart of the largest floodplain swamp in North America, an endowment from the Lamar Family Foundation has made it possible to host a steady stream of researchers at TNC's Atchafalaya Conservation Center. Most recently that included graduate students from Nicholls State University who observed female crawfish living in swamps fed by oxygen-rich river water, and compared them with counterparts living in water made hypoxic by human modifcations to the floodplain's natural flow patterns.

"Over the past decade, our researchers observed that female crawfish in the hypoxic waters were smaller and laid fewer eggs," says Christopher P. Bonvillain, Ph.D., a professor and graduate program coordinator at the university's Department of Biological Sciences. "Their findings support restoring the Basin's hydrology to reduce water stagnation to benefit the crawfish population, which also fuels the leading wild-caught crawfish industry in the nation."

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A Nicholls State University student measures a crawfish in the Atchafalaya Basin. © John Carrier/Nicholls State University; Arogos Skipper (Atrytone arogos) © Greg Lasley/Creative Commons; NPS scientists explore TNC's Persimmon Gully Preserve © Will deGravelles/TNC

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At TNC's CC Road Savanna Preserve, scientists from the University of Louisiana at Lafayette and the Louisiana Department of Wildlife and Fisheries are studying the impact of prescribed burning and habitat restoration on pollinators, including *Bombus variabilis,* a rare bee that is under consideration for federal listing under the Endangered Species Act. Nearby in Calcasieu Parish, National Park Service botanists and biologists from Texas visited TNC's Persimmon Gully Preserve to compare a longleaf pine flatwoods savanna growing in rare, sodic (high in sodium) soils at a periodically burned property with similar habitat found at the Big Thicket National Preserve, which has never been managed with fire. The TNC property had contained a rare, likely fire dependent grass, Silveus' dropseed *(Sporobolus silveanus)*, indicating that a healthier, more diverse ecosystem develops when naturally occurring fire is present in the landscape.

In St. Tammany Parish, two butterfly scientists scouted TNC's Abita Creek Flatwoods and Talisheek preserves for arogos skippers *(Atrytone arogos)* to explore whether these butterflies have become genetically distinct due to geographic barriers like the Mississippi River. Findings from this study could inform conservation strategies for a species that is experiencing population declines throughout the southeast region.

"These studies represent just a few of the many scientific research projects that have used TNC's nature preserves as living laboratories," says Bryan Piazza, TNC's Louisiana director of science. "Collectively, they further our knowledge, in a big way, about critical wildlife habitats and species across the state."

Visit **nature.org/lanews** to learn more about these studies and TNC's conservation work.

NATURE LOUISIANA

Role reversal at FR Ranch

Nature Conservancy staff members also collaborate with researchers outside of TNC's nature preserves to gain knowledge that helps advance our mission in Louisiana. Earlier this year, TNC's Louisiana Director of Conservation Seth Blitch and Director of Land Protection Will deGravelles joined botanists from Louisiana State University and the Louisiana Department of Wildlife and Fisheries at FR Ranch in Cameron Parish. Managed to conserve working grasslands for wildlife, the 20,000-acre cattle ranch owned by the Moore-Odom Wildlife Foundation contains high-quality examples of a rare remnant coastal prairie. Learning more about the property's management history is valuable information that will inform restoring this habitat in other lands across the coast.

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"In Louisiana, there are extremely few places to see remnant coastal prairie with almost no history of disturbance except for light grazing. FR Ranch is a beautiful example of one. We are grateful to FR's managers for allowing us to access these representative learning grounds and even improve these grasslands even more as showpieces for the immense diversity and beauty that can be achieved through coastal prairie restoration."

– Will deGravelles, TNC's director of protection in Louisiana

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