



TO: Joint Legislative Oversight Committee on Agriculture and Natural and Economic Resources

FROM: Megg Rader, Chair, North Carolina Museum of Natural Sciences Advisory Commission

RE: North Carolina Museum of Natural Sciences Advisory Commission Report, FY 2021-2022

DATE: October 1, 2022

On behalf of the [North Carolina Museum of Natural Sciences](#) Advisory Commission, I want to extend our thanks and gratitude to the North Carolina General Assembly for its generous support and advocacy of our state's world class science museum. The people of this state can be very proud of the innovation, education, data collection, research and scientific discovery that the Museum is engaged in daily, as well as the opportunities for North Carolinians to engage in experiences that are hands-on, online and immersive.

Guided by the Museum's 2021-2023 Strategic Plan, the Museum works to further foster our Mission and Vision by engaging the State in scientific discovery and scholarship, encouraging feedback from visitors and constituents (including educators), and embedding best practices into our institutional culture.

Mission: *To illuminate the natural world and inspire its conservation*

Vision: *A knowledgeable and empowered society, making decisions informed by science*

The Museum's flagship location in downtown Raleigh includes the [Nature Exploration Center](#) and [Nature Research Center](#), filled with dioramas, theaters, and interactive experiences. This work is extended outside Wake County through branches at Whiteville, Greenville and Contentnea Creek.

The Nature Exploration Center exhibits reflect North Carolina's diverse and beautiful natural habitats and inhabitants, from the Appalachian Mountains to the Atlantic Ocean, from prehistoric beasts to amazing arthropods. The Nature Research Center allows visitors to explore not just what we know about the natural world, but how we know it—the tools, techniques, and scientists who study the past, present, and future of our planet. Fundamental to this experience is creating opportunities for guests to view working research laboratories, where scientists are making discoveries in real time.

This letter highlights current and significant activities, initiatives and programming that the NCMNS has engaged in over this year.

### **Collections Research**

The Museum's dedicated science team continues to break ground on new discoveries. Museum researchers published 82 peer-reviewed journal articles last year alone, with many more published since the last annual report. These projects were performed around North Carolina and the globe: from the American West, to Europe, Africa, South America and southeast Asia. The studies ranged in time from present-day status checks of endangered species to paleontological studies of protomammals that roamed the Earth almost 300 million years ago. Highlights include:

- Excavating a tiny, ancient, ancestor of the *T. rex*,
- Elucidating that at least 21% of the Earth's reptiles are threatened with extinction,
- Evaluating the influence of urbanization on the behavior of the key deer,
- Exploring the world of outdoor cats and their predation of wildlife in the urban environment.

The most recent major achievement is a NASA award to Dr. Rachael Smith for 15 hours of telescope time (divided between October and December 2022) at NASA's Infrared Telescope Facility in Hawaii. The awarded grant is part of a highly sought-after national competitive program. Dr. Smith uses her time in the study of astrochemistry which, among other things, allows her to analyze planetary systems for signs of life.

### **Dueling Dinosaurs Project**

[Dueling Dinosaurs](#) are two fossils, a *Tyrannosaurus rex* and a *Triceratops horridus* that were locked together at the time of their death, 67 million years ago. They are special both because of the fame of these species and the mystery surrounding their death, as well as the unique completeness of the specimens, which were preserved 100% intact. Our Head of Paleontology, Dr. Lindsay Zanno, and her team will be able

to uncover unprecedented information about these iconic dinosaurs and provide the information to the public via a state-of-the-art interactive exhibit space and laboratory.

The Dueling Dinosaurs project continues to move forward. We are very grateful for the additional appropriated funds needed to respond to pandemic-related supply chain issues. We anticipate the full launch of the gallery, laboratory and programming in the latter half of 2023. The Museum is wasting no time however, and pre-launch programming events will take place leading up to the Dueling Dinosaurs opening. Dates of associated activities will be released as the project continues.

The Dueling Dinosaurs exhibit has ignited the enthusiasm of the Museums' private fundraisers. The Friends of the Museum have raised \$15.7 million through public and private sources (58% private fundraising) and have provided a project manager to coordinate the efforts including construction, education, paleontology research, marketing and fundraising, all of which will be integral to the exhibit's success.

### **Special Exhibitions**

The public has embraced the relaunched Special Exhibition program. Following the immensely successful [\*Exquisite Creatures\*](#) in October 2021, [\*Life Before Dinosaurs: The Permian Monsters\*](#) (which opened in May 2022) has proven even more popular. In this exhibit the Museum went back in time 290 million years with our own Research Curator of Paleontology, Dr. Christian Kammerer, and introduced visitors and students to a world pre-dating the already well-known dinosaurs. This exhibit included mounted skeletons, life-sized animatronic models, and touch-guided displays to illuminate and educate children and adults alike.

In October 2022, the Museum will welcome a new major immersive exhibition, [\*Challenging the Deep\*](#), that follows film-maker James Cameron as he explores the ocean floor in the Deepsea Challenger submersible. We anticipate that this audio and visual experience will thrill and engage museum goers by taking them to the dark and mysterious unknown corners of our world.

### **Traveling Exhibitions**

[\*RACE, Are We So Different?\*](#) opened August 2022 as a traveling popup exhibition. Expanding upon the RACE exhibition displayed at the Museum in 2017, this new exhibition explores the everyday experience of living with race – its history as an idea, the role of science in that history and the findings of contemporary science that challenge its foundations. Among those findings is that all humans are 99% the same genetically. With assistance from the exhibit's original curator, Dr. Yolanda Moses, Professor of Anthropology, University of California, Riverside, as well as Museum leadership the exhibition has been retooled with the option of touring the

exhibition throughout North Carolina. Panels based on the traveling show are on long-term display within the Museum's galleries.

### **Prairie Ridge Eco-station**

[Prairie Ridge Eco-station and Research Laboratory](#) sits on a 45-acre parcel in Wake County. The Museum is exploring ways to use the Eco-station and Lab to its full capacity for education, research, and as a storage facility sufficient to create an open-air natural experience around its globally important natural history specimens.

The Mary Ann Brittain Education Center (MABEC) would be a new building developed as an indoor education space that would shelter students and community members from inclement weather when visiting the site for educational programming. It would also provide much needed office space for Prairie Ridge's management team. Design work has been completed for the building and grounds, incorporating best-practice guidelines for accessibility and sustainability. Aesthetically, it has been designed to blend in with existing architecture, as well as with the surrounding landscape. A funding strategy is currently being developed to raise capital funds and create a funding model for long-term staffing and operations.

### **Connection and Engagement Across NC**

#### 100 County Project

The Museum's commitment to illuminating the natural world extends from the mountains to the coast, from the state's busy urban core to its rural hills and pastures. To demonstrate these wide-reaching goals, the Museum has developed the "[100 Counties Project](#)", an interactive website where users can explore data at the county level. The Museum supports all corners of North Carolina through curriculum-correlated classes, volunteer opportunities, support for other science institutions through the North Carolina Science Museum Grant Program, professional development for teachers, fulfilling information requests, and enrichment programming that includes summer camps and nature hikes. Established in FY2021, and now incorporating data from FY2022, the "100 Counties Project" also provides our museum staff and leadership feedback on performance over time and allows the Museum to develop strategies for future improvement.

### **Regional Networks**

#### Greenville and Contentnea Creek

The Museum has been heavily engaged with its branch location at [NCMNS Greenville / A Time for Science](#) by designing and installing a new visitor experience. This included operational improvements to phone and internet service, and functional improvements to lighting, furniture, and attendance counters. The Greenville location has been welcomed by the community and will be moving to a

new downtown space in Fall 2023. A companion site at Contentnea Creek includes an observatory, planetarium, as well as nature trails and kayaking options.

### Whiteville

The Museum is exceptionally proud of the success of its branch location in [Whiteville](#). The Whiteville site offers STEM activities for all ages, including the Investigate Lab, Naturalist Center, and a Distance Learning classroom that connects students and visitors to presentations from the Museum in Raleigh. Our Whiteville team also hosted two events that demonstrate the Museum's commitment to diversity, equity, and inclusion by being the site of a local celebration of American Indian Heritage Month with the local Waccamaw Siouan Tribe. The event drew more than 400 guests, vendors, dancers, and volunteers to the museum. The Whiteville team also hosted a nationally renowned urban ecologist who led a celebration of Black Birders Week at Jones Lake State Park.

### **Requests and Needs**

While we are proud of this year's accomplishments, the staff and advisory commission of the North Carolina Museum of Natural Sciences are continuously looking forward to how the Museum can best serve the needs of a growing state. We anticipate the need for additional funds in the future to support capital improvements, staffing, and operations across our downtown and satellite locations as outlined below.

#### **1. NCMNS Downtown Campus**

- a. Additional FTEs to support the operational needs around the estimated 20% increase in visitation related to the public opening of the *Dueling Dinosaurs* exhibit.
- b. Additional operational funding to mitigate inflation-related increases around safety and security, equipment, technology maintenance, and leases.

#### **2. Prairie Ridge Ecostation**

- a. A multimillion-dollar capital project that will support the continued development of Prairie Ridge including an education center and functional greenhouse to accommodate increased visitation, accessibility, education program capacity, and operations.

#### **3. Greenville/Contentnea Creek**

- a. Recurring and nonrecurring operating funds to further support and enhance the Museum's innovative public-private partnership. Funding would support the purchase of equipment and signage, develop exhibits, cover contract services and supplies, and support FTEs.

#### **4. Whiteville**

- a. A Visitor Center renovation is needed to increase accessibility and improve visitor experience.

- b. An additional FTE would help to grow the museum's capacity and service level to southeastern North Carolina.

**Conclusion**

The Museum's work is further highlighted in the Museum's [FY2020-2021 Annual Report](#) and upcoming activities are described in the [FY2022-2023 Annual Plan](#). Both are also available for download on the Museum's website.

On behalf of the Advisory Commission, each of us looks forward to our continued work and support of the Museum under the leadership of Museum Director and CEO, Dr. Eric Dorfman, and to fulfilling our role as statewide ambassadors and advocates for this internationally recognized museum.

Respectfully submitted,

Megg Rader, Chair  
NCMNS Advisory Commission