



# 2023 Climate Strategy Report

Department of Natural and Cultural Resources

*September 15, 2023*

- Introduction .....3**
  - About the Department of Natural and Cultural Resources ..... 3
  - The Department of Natural and Cultural Resources’ Vulnerabilities to Climate Change ..... 3
  - The Department of Natural and Cultural Resources’ Approach to Fulfilling the Strategies in the Climate Risk Assessment and Resilience Plan..... 4
  - Reducing Energy Use..... 4
  - Addressing Environmental Injustices and Inequities ..... 4
  - Public Participation Plan ..... 5
- 1.0. Reduce greenhouse gas emissions .....6**
  - 1.1 Reduce energy consumption per square foot in state-owned buildings by at least 40% from fiscal year 2002-2003 levels..... 6
  - 1.2 Support the use and expansion of energy efficient and clean energy resources ..... 9
  - 1.3 Increase the number of registered Zero Emission Vehicles to at least 1,250,000 by 2030 so that 50% of in-state sales of new vehicles are zero-emission by 2030 ..... 10
  - 1.4 Prioritize Zero Emission Vehicles (ZEVs) in the purchase or lease of new vehicles and for agency business travel..... 10
  - 1.5 Initiate other initiatives to decarbonize the transportation sector ..... 13
  - 1.6 Initiate other projects aimed at reducing statewide greenhouse emissions..... 13
- 2.0. Increase statewide resilience to the impacts of climate change.....14**
  - 2.1 Evaluate the impacts of climate change on the Department of Natural and Cultural Resources’ programs and operations ..... 14
  - 2.2 Integrate climate change adaptation practices and resiliency planning into the Department of Natural and Cultural Resources’ policies and operations ..... 16
  - 2.3 Assist the communities served by Department of Natural and Cultural Resources to implement climate change adaptation practices and resiliency planning ..... 19

2.4	Help complete initiatives in the Natural and Working Lands Action Plan .....	21
2.5	Initiate other projects aimed at increasing statewide resilience to the impacts of climate change 22	
<b>3.0.</b>	<b>Address the public health impacts of climate change.....</b>	<b>22</b>
3.1	Increase understanding and awareness of the health impacts of climate change .....	22
3.2	Advance health equity.....	23
3.3	Initiate other projects aimed at addressing the public health impacts of climate change .....	23
<b>4.0.</b>	<b>Invest in historically underserved communities .....</b>	<b>23</b>
4.1	Increase affordability for low- and moderate-income households .....	23
4.2	Create jobs and economic growth .....	24
4.3	Alert residents and businesses, particularly those in underserved communities, of state and federal grant opportunities .....	24
4.4	Initiate other projects aimed at investing in underserved communities .....	24
	<b>Additional Information.....</b>	<b>25</b>

# Introduction

## About the Department of Natural and Cultural Resources

The N.C. Department of Natural and Cultural Resources (DNCR) oversees the state's resources for the arts, history, libraries, and nature. We're home to the state's 27 historic sites, seven history museums, two art museums, two science museums, three aquariums and Jennette's Pier, 39 state parks and recreation areas, the N.C. Zoo, the N.C. Symphony, the State Library, the State Archives, the N.C. Arts Council, State Historic Preservation Office, Office of State Archaeology, the African American Heritage Commission, the American Indian Heritage Commission, and the Division of Land and Water Stewardship.

Our mission is to improve the quality of life in North Carolina by creating opportunities to experience excellence in the arts, history, libraries, and nature by stimulating learning, inspiring creativity, preserving the state's history, conserving the state's natural heritage, encouraging recreation and cultural heritage tourism, and promoting economic development.

DNCR's vision is to be the leader in using the state's natural and cultural resources to build the social, cultural, educational, and economic future of North Carolina. Every day, DNCR's places, programs, and ideas strengthen education, improve public health, enhance quality of life, and support robust economic growth across North Carolina.

## The Department of Natural and Cultural Resources' Vulnerabilities to Climate Change

The Department of Natural and Cultural Resources has many state parks, historic sites, archives, history museums, and other sites, and the harmful effects of climate change are evident throughout these locations.

Climate change negatively impacts DNCR sites through increased staff time and funding needed for storm preparation, recovery and repairs to property and buildings, review, and revision of disaster plans, and making changes to protect assets from future damages. For example, Hurricanes Matthew, Florence, and Michael caused catastrophic damage to buildings, roads, equipment, trails, streams, and trees on DNCR properties. The growing frequency and intensity of wildfires is also an indication of climate change in our state. In addition, with a warmer climate, invasive species are moving into North Carolina, harming native plants and wildlife in state parks and natural areas.

Climate change also affects our visitors, the hundreds of communities we serve, and our cultural and archival resources. Hurricanes, heavy precipitation, heat waves, and other climatic impacts can decrease visitation (e.g., site closures during storms and recovery periods, or due to more extreme temperature highs and lows) and require staff to change strategies on which natural areas our parks and conservation divisions prioritize for protection. Cultural and archival resources such as state and local historic sites,

museums, and archival collections are irreplaceable, making those located near the coast inherently sensitive to sea level rise and the increasing frequency and severity of heavy precipitation and flooding.

DNCR is active across all 100 counties, and resources are limited. The threats of climate change impacts and risks are growing, increasing pressures on the department's finances, staff capacities, and mission.

## The Department of Natural and Cultural Resources' Approach to Fulfilling the Strategies in the Climate Risk Assessment and Resilience Plan

DNCR considers how it manages specific assets under its stewardship, like public lands and facilities, state historic sites, and public records, accounting for the growing impacts of climate change. The department uses its educational and regulatory programs to encourage broader adoption of best practices for addressing climate change and implementing resilience strategies among its partners and the public. These programs range from inventories of natural and cultural resources, to administering grant funding to protect important resources, to educational programs aimed at specific constituents (local planners, public records administrators, etc.) and the public at large through activities at DNCR's many facilities.

### Reducing Energy Use

The Department of Natural and Cultural Resources has made progress on the Executive Order 80 requirements related to reducing energy use. Most notably, DNCR has fully integrated Capturis, an energy data gathering module and payment system, to help monitor energy usage and identify issues with any utilities. Capturis also recommends and identifies energy savings projects after a full year of data has been collected.

The Capital Projects Unit at DNCR has worked with an energy savings contractor to identify energy savings projects and will use the report to review and approve energy saving projects. DNCR also submits the annual energy usage reports to the NC Department of Environmental Quality and creates energy savings through repair and renovations ("R&R") projects.

Furthermore, the Capital Projects Unit and Sustainability Coordinator are working together to identify areas for energy savings opportunities using Capturis.

### Addressing Environmental Injustices and Inequities

Deputy Secretary for Diversity, Equity, Accessibility, and Inclusion Tracey Burns is the environmental justice and equity lead for the Department of Natural and Cultural Resources. Deputy Secretary Burns serves as the agency point person for environmental justice efforts, informs development and implementation of the agency public participation plan described in Section 8 of Executive Order 246, and works with environmental justice and equity leads in other agencies to share and coordinate related activities, best practices, and relevant data.

DNCR has the following webpage on Diversity, Equity, Accessibility, and Inclusion: <https://www.ncdcr.gov/about/diversity-equity-accessibility-and-inclusion>. This webpage is part of the agency's larger website. The goal of this webpage is to identify, describe, and post agency decisions that significantly impact or may significantly impact underserved communities.

Our department is committed to zero tolerance for discrimination and harassment in all forms. We will not allow anyone to be treated as less than equal. We will foster safe environments to discuss the issues of racism and inequality in the workplace and in how we conduct our business with constituents. On this webpage, we will share the stories of Black, Indigenous, and People of Color in North Carolina through art, culture, history, and our natural resources. And we will continue to build a governance system through our boards, commissions and our employees that reflects the diversity of the people of our state to increase awareness among agency leadership and staff of the history and current impacts of environmental, economic, and racial injustice.

On a programmatic level, the Department is pursuing strategies to ensure that resources dedicated to the stewardship of the state's natural and cultural resources, as well as the use of those resources for recreational and educational purposes, are more inclusive and representative of the state's diverse population. In particular, the lack of access to outdoor recreation for many North Carolinians is an example of environmental injustice. We know that some areas in the state have plentiful outdoor recreational opportunities, while other areas, often underserved or minority communities, suffer from a lack of nearby parks, trails, or greenways. DNCR will be thoughtful as we go into underserved communities to ensure that we are doing our part to lead and support just and equitable outdoor recreational opportunities, projects, and initiatives.

To address the inequitable distribution of outdoor recreational opportunities, the department will create a map depicting the extent to which communities are being served by our state and local parks based on measures of proximity and accessibility and review the distribution of grant funds managed by our department (NC Parks and Recreation Trust Fund and NC Land and Water Fund) to ensure that these programs are equitably serving all North Carolinians. The department will also evaluate how it can best build local capacity for expanded recreational assets in communities of low wealth, including examining potential revisions to funding criteria and eligibility. In addition, a "visitors experience" initiative is underway to assess the ways in which history is presented at some of our state historic sites and state parks to update aging exhibits and create a more inclusive experience for visitors by telling a more complete story of North Carolina's past.

## Public Participation Plan

DNCR manages, promotes, and enhances the things that people love in North Carolina – its diverse arts and culture, rich history, and spectacular natural areas. DNCR is committed to reflecting the rich diversity of people and voices within our state through public participation. The Department seeks to foster community engagement, meaningful dialogue, and efficient mechanisms to receive and incorporate public input. Our sites create a common ground—all are welcome.

DNCR is committed to providing a climate and culture that fosters, promotes, and encourages social interactions that support, appreciate, and celebrate our differences. By supporting diversity and inclusion, the department strives to enhance cross-cultural understanding, break down racial and gender-based stereotypes, and create a diverse and productive workforce. As an equal opportunity employer, we stay true to our mission by ensuring that our place can be anyone's place.

As the keepers of our state's history and culture, we first have a duty to look inward to determine how we can be a catalyst for change. We listen to the call for justice and respond by actively participating in the move towards positive change.

We are committed to welcoming everyone to our museums, parks, and attractions, and making their visit comfortable and enjoyable.

The DNCR Diversity and Cultural Inclusion Committee exists to ensure that all elements of the department value and increase diversity and cultural inclusion. It accomplishes this by encouraging diversity of staff, boards, commissions, and friends groups; engaging with a wide array of diverse stakeholder groups and communities; developing, expanding, and promoting content, exhibits, and programs that reflect our state's diverse population; and looking across the department to identify areas where sound practices are already in place, as well as aspects that need improvement, to suggesting steps to address those issues.

A link to DNCR's Public Participation Plan can be found here: <https://www.dncr.nc.gov/about/public-participation-plan>.

## 1.0. Reduce greenhouse gas emissions

### 1.1 Reduce energy consumption per square foot in state-owned buildings by at least 40% from fiscal year 2002-2003 levels

#### 1.1.1 Energy reduction at NC Museum of Natural Sciences

Status: Ongoing

Expected Completion Date: Ongoing

Through the NC MNS Green Team and Facilities Management, the museum actively works yearly to continually reduce energy consumption. Activities include continually retrofitting light sensors to be motion activated, composting and vermicomposting waste, including restaurant locations using reusable or compostable plates, replacing all lights with LEDs, and installing water bottle refilling stations. These actions will continue, as well as implementing other energy efficient and reduction of resource use activities.

#### 1.1.2 Reduce NC Zoo's 2020-2021 Energy Consumption

Status: Underway

Expected Completion Date: June 2023

The NC Zoo's 2020-2021 energy consumption for heating and cooling of state-owned buildings is 149,332 BTUs per square foot, a 30% reduction from 2002-2003 levels. Of the buildings on the Zoo campus, 13 have obsolete or inefficiently functioning HVAC compressors that require high CFC coolant. These HVAC compressors have all been placed on the schedule for repair and renovation expenditures and are planned for replacement. New equipment will have greater capacity, higher efficiency and will not require coolant that is no longer manufactured.

The North Carolina Zoo decommissioned two highly inefficient enclosed buildings: the African Pavilion in 2020 and the Forest Aviary in April 2022. The Zoo is assessing the data, but expects significant decreases in energy consumption, propane, and water as a result.

### 1.1.3 Complete Energy Performance Contract at the NC Zoo

Status: Underway

Expected Completion Date: Unknown

After the initial proposals, Siemens Corporation was selected to implement the changes to all Zoo facilities that are party to this contract. During May and June of 2022, Siemens spent considerable time at the Zoo and is planning on three primary components to increase Zoo energy efficiency, reducing Zoo energy consumption and cost.

Siemens will remove most of the fluorescent lighting around the Zoo for LED lighting. In the Zoo main Auditorium, this cut the energy demand for lighting by nearly 30%. LED lighting will require all new fixtures, but we anticipate significant electricity savings.

Siemens will spend significant time synchronizing all HVAC functions in the Stedman Building. This building has been our main office building since 1990. Over 33 years, the system has undergone parts replacements and numerous upgrades (including an entirely new compressor). The air distribution system inside the building does need service to all parts to assure that everything is running effectively and efficiently.

We anticipate that Siemens will begin this work during the fourth quarter of 2023. These additions and upgrades are only part of the picture. We are not currently able to monitor resource consumption in real time yet, the current system has about a 30-day delay before we can see if there are spikes. Earlier this year, along with the rest of the department, the Zoo became a subscriber to Capturis—a real time monitoring software package that will allow us to track changes in utility use with only a 24-Hour delay in monitoring.

### 1.1.4 NC Aquariums Facility Energy Reduction

Status: Ongoing

Expected Completion Date: Ongoing

In FY 2022-23, the four NC Aquarium facilities collectively reduced their energy usage by 8.5% from 2021-22 levels, with reductions of 4.9% electrical and 22.7% fuel oil, Notably, Jennette's Pier reduced their electrical usage by 28.8% from FY 2021-22. The Aquariums offer discounted admission to EBT cardholders, facilitating visitation by a

demographic with traditionally limited attendance numbers at zoological facilities. During their visit, guests can witness first-hand how and why the Aquariums are working to reduce their greenhouse gas emissions.

In the coming months, the NC Aquariums will continue to work with DNCR and national partners to develop and begin implementation of a strategic plan to reach their goal of net neutrality.

#### **1.1.5 Make Energy and Water Use Reductions at State Library**

Status: Underway

Expected Completion Date: Spring 2025

DNCR is working to replace fluorescent lights in the Government & Heritage Library stacks with motion-detection LED fixtures and add UV protection to all windows in the reading room. The department also recommended that all staff turn off computers in the evening to reduce energy use.

Design is underway with construction starting in early 2024 and will be completed in 2025.

#### **1.1.6 Complete a Guaranteed Energy Savings Contract**

Status: Underway

Expected Completion Date: Spring 2026

DNCR began a guaranteed energy savings contract for the evaluation, recommendation, and implementation of energy conservation measures, including the design and installation of equipment and the repair or replacement of existing equipment or meters. The contract states that all payments except obligations on termination of the contract before its expiration, are to be made overtime; energy savings are guaranteed to exceed costs. The contract is in place at multiple facilities across the department.

The draft Investment Grade Audit (IGA) Plan has been submitted and is under review. A final IGA Plan should be completed and submitted shortly after the FY23-FY24 State Budget is approved. Once a final IGA Plan is approved by the department, DNCR Capital Projects Unit will start the process to secure a loan for the approved energy saving projects working with the Office of State Budget and Management, the Department of Treasury, and State Construction Office.

#### **1.1.7 Use of Solar Energy at the NC Zoo**

Status: Ongoing

Expected Completion Date: Ongoing

The NC Zoo currently has 9,600 square feet of solar panels generating up to 104 kW/hr. The current installation is grid-connected, so the Zoo receives cost-saving credits from its electricity provider (Randolph Electric Membership Cooperative). REMC can accept additional energy generated on site, or this may be used in-house to reduce incoming energy demand.



### 1.1.8 Support Sustainable Energy Sources at the NC Zoo

Status: Ongoing

Expected Completion Date: Ongoing

As one of the Randolph Electric Membership Cooperative's largest consumers, the North Carolina Zoo encourages additional purchases from carbon-neutral sources. Currently, 60% of all energy purchased from REMC is derived from carbon-neutral sources.

The North Carolina Zoo is working with Randolph Electric Membership Cooperative on an educational display at the Solar Pointe picnic kiosks and "Power Kids" exhibit near the Prairie Habitat inside the Zoo. These educational displays highlight the sustainable energy use at the Zoo and encourage guests to increase their sustainable practices.

### 1.1.9 Installation and Retrofitting of NC Aquariums Equipment and Structures

Status: Ongoing

Expected Completion Date: Ongoing

In 2022-23, the NC Aquariums at Fort Fisher (NCAFF) and Pine Knoll Shores (NCAPKS) replaced their parking lot bollard lights with energy-efficient LEDs, and all locations continue to install LED retrofits for both interior and exterior lighting. NCAFF, NCAPKS and JP received a Volkswagen Settlement grant for the installation of Level 2 EV charging stations for public use and hope for installation by the end of Q1 2024. JP is currently pursuing a Level 3 EV charging station and NCARI is entering a 2<sup>nd</sup> round of grant submissions in hopes of receiving the Level 2 EV charging stations from the Volkswagen Settlement. NCAFF also conducted a solar analysis for the site and identified the opportunity to install an 800kW floating solar array that would provide 25% of the total facility electrical needs - a project that is currently seeking funding partners. Installation of natural seawater intake systems at NCAFF and NCARI are in the assessment phase, eliminating the current and costly process of mixing manmade saltwater on site. Additional planning is underway at multiple locations to install VFDs on aquarium pumps and HVAC systems, update transformers, and replace hot water heat pumps. All four locations are working with DNCR, Verdis Group, an environmental consulting firm, and the 27-member Aquarium Conservation Partnership coalition to develop a pathway to net neutrality.

In April 2023, the NC Aquarium at Pine Knoll Shores held its first Carnival to Combat Climate Change event. The event was free and accessible to the public and did not require Aquarium admission to attend. Attendees had the opportunity to interact with community conservation leaders to learn about the sources and impacts of the climate crisis and were encouraged to take meaningful actions to conserve energy and reduce greenhouse gas emissions at home and in their community.

## 1.2 Support the use and expansion of energy efficient and clean energy resources

### 1.2.1 Participation in Interagency Steering Committee for North Carolina Deep Decarbonization Pathways Analysis

Status: Complete

Expected Completion Date: January 2023

The Pathways Analysis evaluates potential emission-reduction strategies for achieving net-zero GHG emissions across North Carolina's economy by 2050 and interim targets. The analysis developed a baseline scenario that captures current policies and emissions and sequestration trends and a series of illustrative, economy-wide net GHG emissions reductions pathways for North Carolina that are consistent with the 2030 and 2050 emissions goals established in EO 246. DNCR staff served as subject matter experts on current and projected contribution of the Natural and Working Land Sector to sequestering greenhouse gas emissions. With guidance from the Governor's Office, consultants for the State conducted targeted outreach to specific constituencies as appropriate throughout the project to ensure key stakeholders understood the project scope and timeline and had a meaningful opportunity to provide timely feedback.

DNCR can use the Key Findings from the Pathways Analysis final report to help inform decision making that will help NC meet net zero emissions goals.

### 1.2.2 Solar Charging Stations at DNCR Events

Status: Ongoing

Expected Completion Date: Ongoing

DNCR procured two portable solar charging units in 2023 and have been utilizing them for events and programs. Each unit is a high-power generator that is fueled by solar panels. Each unit is portable, silent, and available for use across the agency. This year, DNCR was able to engage these units as cell phone charging stations at festivals and to power performance stages at the Freedom Park opening. The team is excited to find new ways to utilize these units across the state for both programs, disaster response, or energy saving and remote power solutions.

## 1.3 Increase the number of registered Zero Emission Vehicles to at least 1,250,000 by 2030 so that 50% of in-state sales of new vehicles are zero-emission by 2030

Currently, the Department of Natural and Cultural Resources has no initiatives to report for section 1.3. Information on DNCR's motor fleet transition to Zero Emission Vehicles can be found in section 1.4.

## 1.4 Prioritize Zero Emission Vehicles (ZEVs) in the purchase or lease of new vehicles and for agency business travel

### 1.4.1 Purchase and lease ZEVs throughout DNCR whenever feasible

Status: Ongoing

Expected Completion Date: Ongoing

As described in DNCR's Strategic Plan Milestone 5.1.2, DNCR will lead by example to increase state employees' familiarity with Zero Emissions Vehicles (ZEV), prioritizing ZEVs and hybrids in the purchase or lease of new vehicles and shall use ZEVs for agency business travel when feasible.

For FYE2023, DNCR has leased 14 ZEV/Hybrid Vehicles from Motor Fleet Management. This includes 7 Chevy Bolts (electric), 5 Toyota Camry Hybrids, and 1 Ford Escape SE Hybrid.

DNCR hosted an EV Q&A event for employees to ask questions and gain knowledge on electric vehicles and the agency's motor fleet transition. Experts on electric vehicles and electric vehicle infrastructure were available to provide background information and answer questions from employees.

#### **1.4.2 Applying for DC Fast Charger Funding through the Federal Highway Administration (FHWA)**

Status: Underway

Expected Completion Date: December 2024

DNCR applied in Spring 2023 for 12 sites to receive funding from the Federal Highway Administration to install DC Fast Chargers at these sites. The agency and sites expect an update on the grant applications in Fall 2023. If awarded, the DC Fast Chargers will supplement DNCR Level 2 chargers. A portfolio of DC Fast Chargers will further enhance the public reputation of DNCR's sites as destinations with accessible and reliable EV charging options.

#### **1.4.3 Purchase of EV & Hybrid Vehicle for NC Museum of Natural Sciences**

Status: Complete

Expected Completion Date: 2023

The NC MNS purchased two new vehicles working towards emission reduction of the fleet, including one EV Chevrolet Bolt and one Toyota Camry hybrid. Grant funding was utilized to purchase the EV, and a level 2 charger was installed in the NC MNS loading dock to support the vehicle.

The museum hopes to provide faster charging support at this facility as well as at branch location in the future.

#### **1.4.4 Purchase Electric Buses for the NC Zoo**

Status: Underway

Expected Completion Date: 2024

In August 2022, the North Carolina Zoo was awarded a VW-L2 transit vehicle grant. Administered by the Department of Environmental Quality, this grant will fund the purchase of two fully electric Thomas-Built 44 Passenger Jouley Busses, along with charging infrastructure, to replace two older diesel shuttle buses. These will be used

as parking lot shuttles in areas with high vehicle emissions to help reduce atmospheric carbon.

The electric buses are scheduled for a November 2023 delivery, so these will be in service for the Zoo's 50th Anniversary in 2024.

#### 1.4.5 Purchase ZEVs for the NC Zoo

Status: Ongoing

Expected Completion Date: Ongoing

In 2020, with some assistance from the State and Federal Government, the Zoo acquired 2 Chevy Bolt automobiles from State Motorfleet. Both are now in use by the Zoo rangers. The Zoo added 3 Electric Golf Carts and 3 Electric Tricycles to the Fleet of Zoo EVs. The Zoo has 11 Vantage Electric Micro Trucks – one is a passenger van, two are cargo vans, and the remainder are small trucks. These function inside the Zoo and are small enough to traverse the guest pathways. The Zoo Commissary delivers food to our animals with a Ford Electric Transit Van.

## 1.5 Initiate other initiatives to decarbonize the transportation sector

### 1.5.1 Acquisition of charging stations and hybrid vehicles at the NC Aquariums

Status: Underway

Expected Completion Date: Ongoing

In 2022-23 all three NC Aquariums added hybrid vehicles (Chevy Bolt) to their fleet. Plans are underway to install publicly accessible EV charging stations at three of the sites, with the hope of eventually installing stations at all four locations.

### 1.5.2 Purchase, Design, and Installation of EV Chargers across DNCR sites

Status: Ongoing

Expected Completion Date: Ongoing

Through VW-L2 Grant Program administered through NC DEQ, the Capital Projects Unit at DNCR has begun design of Level 2 EV Chargers and expect to complete installation by 2024 at the 10 sites listed below:

1. Prairie Ridge Ecostation – NC Museum of Natural Sciences
2. William B. Umstead State Park – Reedy Creek Entrance in Cary, NC
3. William B. Umstead State Park – Crabtree Creek Entrance in Raleigh, NC
4. President James K. Polk Historic Site
5. NC Transportation Museum
6. NC Museum of Natural Sciences at Whiteville
7. Fort Fisher State Historic Sites
8. NC Aquarium at Fort Fisher
9. NC Aquarium at Pine Knoll Shores
10. NC Aquarium at Jennette’s Pier

### 1.5.3 Install ZEV Charging Stations at State Parks

Status: Ongoing

Expected Completion Date: Ongoing

In 2023, EV charging stations have been installed at Eno River State Park, Jockeys Ridge State Park, Lake James State Park, and Mount Mitchell State Park. There are plans for additional EV charging stations across state parks and other DNCR sites. DNCR continues to pursue funding opportunities for electric vehicle charging stations through federal grant programs for all sites across the state.

## 1.6 Initiate other projects aimed at reducing statewide greenhouse emissions

### 1.6.1 Support teleworking among positions that can work effectively remotely

Status: Ongoing

Expected Completion Date: Ongoing

Beginning in fiscal year 2022-2023, DNCR implemented a department-wide telework program after successfully completing a pilot telework program that ended June 30, 2022. The telework program provides workplace flexibility, promotes efficient operations, and reduces greenhouse gas emissions by reducing weekly commute times for participating staff.

In keeping with the state telework policy, DNCR will continue the telework program in divisions where it meets business needs and for positions where job functions may be suitable for telework.

## 2.0. Increase statewide resilience to the impacts of climate change

### 2.1 Evaluate the impacts of climate change on the Department of Natural and Cultural Resources' programs and operations

#### 2.1.1 Complete the NC Shorescape Archaeological Survey

Status: Underway

Expected Completion Date: August 2024

In FY2023-2024, the Office of State Archaeology (OSA) will undertake a North Carolina Shorescape Survey to identify and document archeological resources associated with coastal communities that are most at risk of being damaged by storm events. The focus is on identifying and documenting terrestrial and underwater sites within 200 ft (60 meters) each side of the shoreline.

Survey projects are now underway. These surveys will allow OSA to determine the location and extent of shoreline archaeological resources, the conditions of these sites and their associated shorelines, the historical significance of these resources, and management strategies to preserve these shoreline archaeological resources. The project will also support the ongoing effort to digitize existing paper records.

#### 2.1.2 Conduct environmental reviews and provide assistance to constituents for disaster recovery, response, and mitigation for future events

Status: Ongoing

Expected Completion Date: Ongoing

The Natural Heritage Program and State Historic Preservation Office review disaster-related and resiliency-oriented projects within a 30-day turnaround schedule to help project planners avoid harming sensitive environmental and historical resources during disaster recovery.

During the next twelve months, DNCR will continue to provide support for planning and resiliency initiatives underway. This work is done in tandem with work conducted

by the State Historic Preservation Office (SHPO) through the Emergency State Historic Preservation Fund (ESHPPF).

### 2.1.3 Consider climate-related hazards when developing master plans and management plans for natural areas, parks, and nature preserves

Status: Ongoing

Expected Completion Date: Ongoing

The Division of Parks and Recreation considers climate-related hazards in the development of master plans, management plans, and specifically in the Statewide Comprehensive Outdoor Recreation Plan (SCORP).

### 2.1.4 Assess Imperilment of Plants and Animal Species

Status: Ongoing

Expected Completion Date: Ongoing

The Natural Heritage Program updates the statewide lists of Rare Plant and Animal Species of North Carolina (2022). These reports, which are updated every two years, provide a list of all the plant and animal species that are listed as Endangered, Threatened, or of Special Concern as well as all Significantly Rare species that are not formally protected but are imperiled enough to warrant tracking and monitoring to prevent extirpation. Habitat information and counties of occurrence are also included.

The Natural Heritage Program assisted the NC Wildlife Resources Commission and NC Plant Conservation Program to add state Threatened, Endangered, and Special Concern plant species to the State Wildlife Action Plan Species of Greatest Conservation Need. The proposal was approved by the US Fish and Wildlife Service in 2023.

During the upcoming year, the Natural Heritage Program will complete range-wide status surveys of Carolina Hemlock and Mountain Purple Pitcher Plant and monitor populations of American Ginseng, assessing threats from all sources including climate change, habitat fragmentation, and invasive species.

### 2.1.5 Inventory and Monitor State Nature Preserves

Status: Ongoing

Expected Completion Date: Ongoing

Field Biologists monitor rare species as they conduct biological inventories of lands under consideration for protection as state nature preserves. Special attention is paid to species and habitats that are most vulnerable to a changing climate and natural disasters such as hurricanes, floods, and landslides. During the field season of 2023, Natural Heritage Program staff worked closely with NC Department of Public Safety, NC Wildlife Resources Commission, and NC Plant Conservation Program to survey natural areas and propose new state nature preserves on state-owned land.

During the upcoming year, the Natural Heritage Program plans to survey lands at Pond Mountain (Ashe), Pisgah View (Buncombe), and Pineola (Avery), as well as many additional sites.

## 2.2 Integrate climate change adaptation practices and resiliency planning into the Department of Natural and Cultural Resources' policies and operations

### 2.2.1 DNCR-wide Native Plants Policy

Status: Ongoing

Expected Completion Date: Ongoing

Effective July 1, 2023, DNCR implemented a Native Plants Policy.

Native plants are an important part of North Carolina's natural and cultural heritage. They are adapted to the state's environment and more likely to thrive, especially during drought. Unlike invasive non-native species, they do not overwhelm natural ecosystems. They support pollinators essential to food production and ecosystem health, and otherwise declining bird populations that depend on insects associated with native gardens. Native plants, especially grasses, are better able to store carbon and reduce greenhouse gases.

To meet its mission of preserving the natural heritage of our state, the Department of Natural and Cultural Resources ("DNCR") enacts this policy regarding the use of native plants at all DNCR sites and all project sites funded by the Parks and Recreation Trust Fund (PARTF), unless otherwise excepted.

### 2.2.2 Develop Disaster Preparedness and Recovery Trainings

Status: Planned

Expected Completion Date: Ongoing

Develop on-demand training for public records custodians, cultural heritage practitioners, and the public around disaster preparedness and recovery for public records and documentary heritage of the state. The Division of State Archives hosted an internal Wet Records Recovery Workshop and a member of the Division of State Archives will be hosting a Flood Recovery Workshop for cultural heritage practitioners in October.

### 2.2.3 Complete Resiliency Projects for State-Owned Historic Sites' Properties

Status: Underway

Expected Completion Date: August 2024

Several state-owned historic properties have received federal and/or state funding, including Emergency Supplemental Historic Preservation Fund (ESHPPF) funding to address damage from Hurricanes Florence and Michael and provide greater resiliency for projects underway. The properties include:

1. Galen Stone Hall at Charlotte Hawkins Brown State Historic Site. Design and construction of slate roof repair and building and foundation drainage systems to prevent basement flooding that the building experienced during Hurricane Florence.



2. Douglas Complex at Tryon Palace. Address damaged flooring and brick sheathing, mold eradication, and water runoff control.
3. Harper House at Bentonville Battlefield State Historic Site. Installation of a state funded emergency generator to maintain power to the HVAC system during severe wind-driven rainstorm events will avoid future problems like the week-long period post-Hurricane Florence where the building could not be adequately dried out and developed mold and plaster issues. Repair damaged siding and windows and repaint exterior in documented historic colors.

#### 2.2.4 Complete the Brunswick Town/Fort Anderson (BFTA) Wave Attenuator Project

Status: Underway

Expected Completion Date: December 2024

DNCR is installing wave attenuators in the Cape Fear River to protect more of the sensitive, in situ Colonial-era archaeological resources and Civil War earthworks present along the shoreline from wave action and hurricane storm surge.

The most recent phase, funded with Emergency Supplemental Historic Preservation Fund (ESHPPF) federal historic preservation fund hurricane grant monies, was completed during FY 2022-23.

Completed phases are being monitored for outcomes under contract with UNC-W, with a completion date of December 2024. Results to date for prior phases are meeting or exceeding expectations with shoreline stabilization and regeneration as well as native flora and fauna returning.

Seeking funding for additional phases.

#### 2.2.5 Storage Solutions for At-Risk DNCR Collections

Status: Complete

Expected Completion Date: June 2023

Evaluated off-site storage solutions for collections at-risk from the triple threats of flooding, heavy precipitation, and sea level rise climate risks across DNCR.

The Office of State Archaeology (OSA) is moving its paper files from Kure Beach in New Hanover County to OSA facilities inland for digitization.

#### 2.2.6 Manage State Parks with prescribed fire as a method to increase ecosystem resilience

Status: Ongoing

Expected Completion Date: Ongoing

State Parks runs an active prescribed fire program to maintain natural communities in an ecologically healthy condition. A healthy habitat is one better suited to adapting to the climate conditions it faces.

The Division of Parks and Recreation and Land and Water Stewardship are jointly working with NC Forest Service to share information about nature preserves with

sensitive natural areas that should be given special consideration during fire suppression and management activities.

The Prescribed Fire Branch of the Natural Resources Program aims to consistently conduct 50 to 70 prescribed fires on a yearly basis statewide. This is accomplished through internal efforts and the collaborations established with assisting partners. The recent historic accomplishments of between 6,000 and 7,000 acres is profound within the agency yet continues to fall short of the need of 15,0000 to 20,000 acres annually.

The NC General Assembly has provided funding to DNCR through the FY 2022- FY 2023 budget for two regional “Burn Bosses” to coordinate prescribed fires throughout the state park system. Funds have also been provided for firefighting equipment and personal protective equipment. Staffing expansions aim to increase the recent successes, though none of this is accomplished without partner assistance due to the complex nature of an ever-increasing wildland urban interface (WUI) in North Carolina.

### **2.2.7 Manage Land Restoration through the Division of Parks and Recreation (DPR)**

Status: Ongoing

Expected Completion Date: Ongoing

The Division of Parks and Recreation (DPR) is actively restoring lands and waters that have been damaged from past land activities. Actions on lands include conversion of pine plantations and abandoned agricultural fields to a more natural condition. Streams and wetlands are being restored by re-creating natural channels and removing artificial structures such as dams and culverts.

### **2.2.8 Help Libraries Contribute to Community Disaster Preparedness**

Status: Underway

Expected Completion Date: December 2023

The State Library is collaborating with NC Public Library Directors Association to recognize and support the role that libraries play in disaster preparedness and recovery efforts more formally.

### **2.2.9 Emergency Supplemental Historic Preservation (ESHPPF) Disaster Assistance**

Status: Ongoing

Expected Completion Date: Ongoing

Conduct environmental reviews and provide assistance to constituents for disaster recovery response, and mitigation for future events.

During the next twelve months, DNCR will continue to provide support for planning and resiliency initiatives underway, and initiate planning, resilience, and construction repair projects for historic resources. This work will take place under the Emergency Supplemental Historic Preservation (ESHPPF) Disaster Assistance grant projects for Hurricane Florence and Michael recovery.

The Environmental Review branch of the State Historic Preservation Office continues to work expeditiously to review all disaster-related and resiliency-oriented projects within a 30-day turnaround schedule. Five members of the State Historic Preservation

Office have completed Floodplain Management training sponsored by the NC Department of Public Safety in 2023.

## 2.3 Assist the communities served by Department of Natural and Cultural Resources to implement climate change adaptation practices and resiliency planning

### 2.3.1 Fund Land Acquisition, Restoration, Flood Risk Resilience, Innovative Stormwater, and Planning Projects

Status: Ongoing

Expected Completion Date: Ongoing

The NC Land and Water Fund improves water quality, sustains ecological diversity, and protects historic sites and military installations by funding projects to acquire lands, restore the habitat for fish, wildlife, and other species, and enhance the filtering of stormwater runoff to reduce pollutants from entering water supplies. In September 2022, the NC Land and Water Fund granted a total of \$70,373,404 to state agencies, local governments, and land conservation organizations for a variety of outstanding projects. In addition to the stated mission of the Fund, the funded projects will also sustain or improve resilience and provide additional benefits of sequestering and storing carbon, thus helping to offset total statewide greenhouse gas emissions.

In February, the NC Land and Water Fund awarded grants totaling \$15 million through its Flood Risk Reduction Program. This program provided funds for 17 projects that protect and restore floodplains and wetlands for the purpose of storing water, reducing flooding, improving water quality, providing wildlife and aquatic habitat, and providing recreational opportunities. The Flood Risk Reduction Program was funded through a one-time appropriation of \$15 million but stands ready to do more work if additional funding becomes available.

### 2.3.2 Provide Grant Writing Support to Communities and Organizations

Status: Underway

Expected Completion Date: June 2026

DNCR provides technical assistance to local governments applying for Parks and Recreation Trust Fund (PARTF) grants through a contract with Recreation Resources Service (RRS) at NC State University.

The Contract with RRS will be executed through June 30, 2026. Field administration and management for the following Department of Parks and Recreation (DPR) grants include Land and Water Conservation Fund, PARTF, Accessibility for Parks Grant Program and other related grants implemented through legislation. DPR supports RRS with State Park office locations outside the main office located in Raleigh to provide timely field administration and outreach.

### 2.3.3 Cultural Resources Emergency Support Team (CREST) Consultations

Status: Ongoing

Expected Completion Date: Ongoing

DNCR staff have worked on multiple fronts to address storm recovery and climate resilience in two historically marginalized communities with frequent flooding. CREST maintains an active team with regular training. DNCR deploys that team to help institutions statewide recover collections from all types of disasters. The 2023 annual summit will take place on August 28th and will involve classroom training on how to respond to an emergency event and how to salvage leather and textile-based objects. CREST is prepared to continue to respond to requests for help with both in-person and remote technical assistance.

#### 2.3.4 Hire a Records Analyst Position

Status: Completed

Expected Completion Date: November 2022

The Division of State Archives added a records analyst based in the eastern portion of the state to focus on supporting counties and municipalities that have faced recent flooding during severe weather events. The Essential Records Analyst is based in New Bern and will be primarily responsible for local government records consultations, training on essential records protection, and the coordination of back-up imaging of archival records. This analyst will also be creating handouts and brochures regarding essential records and disaster preparedness.

#### 2.3.5 Provide Trainings on Identification and Protection of Essential Public Records

Status: Ongoing

Expected Completion Date: Ongoing

The Division of Archives and Records offered training on the identification and protection of essential public records to records custodians. In the past year, we offered this training virtually twice and had a total of 141 attendees. We plan to offer this training again in the upcoming year. We will also be presenting a condensed version of this training at the N.C. Association of the Register of Deeds Annual Conference in September 2023.

#### 2.3.6 Offer a Hurricanes Florence and Michael Constituent Subgrant Program for Historic Preservation Recovery

Status: Underway

Expected Completion Date: August 2024

NC State Historic Preservation Office (HPO) received \$17 million in federal grant funding to provide recovery assistance to historic resources damaged by Hurricanes Florence and/or Michael that are listed in or eligible for listing in the National Register of Historic Places.

The award allowed the HPO to make available up to \$9.25 million in grants for historic resources located in the 61 eligible counties in North Carolina designated by FEMA for disaster assistance.

The HPO submitted 22 constituent subgrant proposals to the National Park Service for funding approval totaling \$9.25 million in cumulative assistance. Two projects were

unable to finalize grant agreements and the funds will be reallocated to other approved projects. These projects include 3 planning projects, and 17 brick and mortar projects, and were approved by NPS in 2021. Subgrant work is currently underway with individual recipients from FY2021 through FY2024.

### 2.3.7 Complete Historic Resilience Planning Project for Local Governments and Statewide Constituents

Status: Underway

Expected Completion Date: August 2024

In collaboration with the NC Impact Initiative at the UNC School of Government and NC State University, the State Historic Preservation Office is working to better link local disaster planning to historic resource resiliency planning and to create and provide training for state agency personnel, local governments, and non-profit historic sites in best practices for disaster preparedness and response. Project management and advisory group facilitation is occurring between December 2021 and September 2024, and design standards are under development between December 2021 and September 2023. Additionally, between December 2021 and late-2023, project partners are creating a resilience scorecard to integrate hazard mitigation and historic resource resiliency planning. The group has plans to offer training on the subject in 2024. Disaster preparedness training is scheduled to take place between July 2023 and August 2024.

### 2.3.8 Offer Constituent Consultations and Training Videos

Status: Ongoing

Expected Completion Date: Ongoing

In collaboration with the National Park Service and the National Alliance of Preservation Commissions, the State Historic Preservation Office offered six sessions of Resiliency and Disaster Planning Training in May 2023 (the second in NC following an inaugural session in 2022) to local historic preservation commissioners and preservation planners statewide. It was funded by Emergency Supplemental HPF Funding.

The Restoration Branch of the State Historic Preservation Office provides technical advice for restorations, rehabilitations, and building maintenance to owners of historic buildings at no cost or obligation. Similarly, Cultural Resources Emergency Support Team (CREST) provides technical advice for special collections and artifact recovery.

Additionally, the Emergency Supplemental Historic Preservation Fund (ESHPPF) grant for Hurricanes Florence and Michael recovery is funding a statewide resiliency project focused on historic preservation in collaboration with the NC Impact project at the University of North Carolina School of Government and NC State University, which will provide a variety of training opportunities statewide.

## 2.4 Help complete initiatives in the Natural and Working Lands Action Plan

#### 2.4.1 Organize and Host Steering Committee Meetings for Natural and Working Lands Action Plan Stakeholders

Status: Ongoing

Expected Completion Date: Ongoing

DNCR Staff held Quarterly Steering Committee Meetings for the NWL Action Plan to coordinate activities within and outside of State Government. Staff also attended a US Climate Alliance Learning Lab in Washington DC, aimed at helping participating states improve effectiveness of NWL actions.

#### 2.4.2 Conserve and restore wetlands and floodplains

Status: Ongoing

Expected Completion Date: Ongoing

The Division of Parks and Recreation, NC Zoo, and State Historic Sites have purchased and restored land in wetlands and floodplains. This work is ongoing and works in tandem with grants from the Parks and Recreation Trust Fund (PARTF) and NC Land and Water Fund (NCLWF) grants.

The Department of Natural and Cultural Resources help complete other initiatives in the Natural and Working Lands Action Plan. These initiatives are reported in other sections of the report and not duplicated in this section.

### 2.5 Initiate other projects aimed at increasing statewide resilience to the impacts of climate change

Currently, the Department of Natural and Cultural Resources has no initiatives to report for section 2.5.

## 3.0. Address the public health impacts of climate change

### 3.1 Increase understanding and awareness of the health impacts of climate change

#### 3.1.1 PATH – Parks and Trails for Health – Year of the Trail 2023 Events

Status: Ongoing

Expected Completion Date: Ongoing

Throughout the Year of the Trail in 2023, DNCR supported several PATH – Parks and Trails for Health – events across the state. Each event featured planned activities in the area and encouraged outdoor recreation.

For each event, DNCR made a strong effort to reduce all plastics, papers, and disposable items from our presence and promotion.

### 3.2 Advance health equity

#### 3.2.1 Provide grant opportunities for libraries in support of health access and telehealth efforts

Status: Ongoing

Expected Completion Date: Ongoing

The State Library has awarded two grants to libraries (Haywood County and Duplin County) for wired booths with sound proofing which may be used for telehealth appointments in addition to virtual meetings or interviews.

The State Library will promote health access and telehealth support within libraries as possible uses for federal grants available from the State Library to libraries across the state. Monitor recipients of grant awards for these purposes to determine community impact.

### 3.3 Initiate other projects aimed at addressing the public health impacts of climate change

Currently, the Department of Natural and Cultural Resources has no initiatives to report for section 3.3.

## 4.0. Invest in historically underserved communities

### 4.1 Increase affordability for low- and moderate-income households

#### 4.1.1 North Carolina Zoo Inclusion Programs

Status: Ongoing

Expected Completion Date: Ongoing

The Zoo instituted an EBT program to help remove the financial barrier to coming to the Zoo. This program began in Spring 2023 with the EBT redemption rate of \$16,502 for May, June, and July 2023.

To further create an environment where all staff and guests feel welcome, a Spanish language option was added to the Zoo's website, and social posts were launched to highlight DEAI topics. Inclusion-statement banners and a land acknowledgment statement are now publicly displayed in Zoo plazas and Zoo website. Internally, work has begun to focus on hiring practices to remove barriers and promote inclusion.

## 4.2 Create jobs and economic growth

### 4.2.1 Host NC Zoo AmeriCorps Position

Status: Ongoing

Expected Completion Date: Ongoing

The Zoo accepted three new *AmeriCorps* members for 2023. The *AmeriCorps* positions are focused on bringing climate and outdoor education to underserved communities and expanding access to our natural areas.

### 4.2.2 Run the Hurricanes Florence and Michael Constituent Subgrant Program for Historic Preservation Recovery

Status: Underway

Expected Completion Date: August 2024

Grant agreements have been executed for underserved community historic resource repair construction projects (African American, Lumbee, Women's Equal Rights) in Beaufort, Bladen, Durham, Johnston, Moore, Pender, and Robeson counties. Projects for repairs of Galen Stone Hall at Charlotte Hawkins Brown Memorial and St. Joseph's Church (Douglas) Complex at Tryon Palace will preserve important State-owned African American resources. Project design and some construction are underway.

## 4.3 Alert residents and businesses, particularly those in underserved communities, of state and federal grant opportunities

### 4.3.1 Support National Park Service Historic Preservation Fund Grant Applications

Status: Ongoing

Expected Completion Date: Ongoing

In FY 2021-22, staff assisted constituents in applying for federal History of Equal Rights grant to supplement a \$520,000 grant awarded through the Hurricanes Florence and Michael Constituent Subgrant Program, subsequently awarded (\$500,000).

In FY 2022-23, staff assisted another constituent in applying for \$585,000 from the federal History of Equal Rights grant program to supplement a \$748,000 grant awarded for the Hurricanes Florence and Michael Constituent Subgrant Program.

## 4.4 Initiate other projects aimed at investing in underserved communities

### 4.4.1 Conduct a NC Coastal Cemetery Archaeological Survey

Status: Underway

Expected Completion Date: August 2024



This study conducted by the Office of State Archaeology will identify, document, and assess the condition of historical cemeteries on state lands in nine coastal NC counties (Beaufort, Brunswick, Carteret, Dare, Hyde, New Hanover, Onslow, Pamlico, and Pender). In addition to treefall and wind-borne debris damage, fragile and environmentally sensitive historic cemeteries and their features are under threat from erosion, subsidence, flooding, and storm surge. Particular attention will be directed toward recording those cemeteries traditionally associated with African American communities, which are underrepresented in state records.

#### 4.4.2 Sustainable Events and Programs in Rural Areas Across the State

Status: Ongoing

Expected Completion Date: Ongoing

DNCR produces several major events each year, including NC Awards, Freedom Park, ribbon cuttings, festival and event sponsorships, and community engagement in rural areas across the state. DNCR hosted three regional training sessions for DNCR staff and partners on The Art of Mass Gathering, using events as classrooms to explore four pillars of safety, sustainability, accessibility, and community engagement. The training has informed DNCR event planning and production across the agency for environmentally responsible options and strategies across the state.

#### 4.4.3 Coordinate Public Lands and Open Space Investment in Underserved Communities

Status: Planned

Expected Completion Date: 2025

The Division of Parks and Recreation plans to work with the Department of Environmental Quality and the Andrea Harris Social, Economic, Environmental, and Health Equity Task Force to incorporate park and trail investment in underserved communities into the State's environmental justice network.

Governor Roy Cooper reestablished the Andrea Harris Equity Task Force through an Executive Order to continue the work that the group has done to address social, economic, and health disparities in underserved and underrepresented communities. The initial task force was established in June of 2020.

The Natural Heritage Program, State Parks, and DNCR Sustainability Team are developing an Equity Mapping Project to identify areas underserved by DNCR and provide recommendations to better serve these areas. The department will continue to evaluate the role it could play in the continued efforts of the taskforce.

## Additional Information

#### Single-Use Plastics Reduction Pilot Project

Status: Underway

Expected Completion Date: December 2024

In partnership with Duke University’s Environmental Law and Policy Clinic, DNCR is participating in a single-use plastics reduction pilot. The pilot is beginning by gathering background data on current practices as they relate to single-use plastics. Data will then be analyzed, and recommendations will be given for reducing single-use plastics at DNCR sites and creating outreach opportunities across DNCR sites.

DNCR Divisions included in this pilot are the following:

1. Division of Parks and Recreations
2. Division of Archives and Records
3. NC Museum of Natural Sciences
4. NC Museum of Art
5. NC Museum of History

### Climate Change Education Signs

Status: Underway

Expected Completion Date: Spring 2024

DNCR is working with a vendor to create 80 climate change education signs that provide a brief overview of climate science, how climate change is impacting North Carolina, and how visitors can become “Climate Champions.” There will be a supplemental website associated with these signs that provide a more in-depth explanation of climate change and additional resources.

Signs are currently in the production phase. Once received by DNCR, signs will be installed at DNCR sites. A supplemental webpage on the DNCR website is being developed to provide additional information and resources on topics covered on the signs.

### Digital Marketing, QR Codes and Paper-Free Events and Promotions

Status: Ongoing

Expected Completion Date: Ongoing

The agency utilizes digital options for marketing and communications purposes as often as possible. Utilizing QR codes, creating digital companion pieces and reducing the use of plastics and printed materials, DNCR is able to share North Carolina’s stories more completely and responsibly.

### Climate Change Education Across DNCR Sites and Programs

Status: Ongoing

Expected Completion Date: Ongoing

Climate change education is ubiquitous to DNCR. Through our programs at state parks, historic sites, museums, aquariums, libraries, and Land and Water Fund, the agency has produced a variety of educational programs: signage at DNCR sites, PBS-NC programs like ‘State of Change,’ digital versions of exhibits and programs, 360 tours of sites and increased virtual programs.

### Offer Climate Education Programming at the NC Museum of Natural Sciences

<p>Status: Ongoing Expected Completion Date: Ongoing</p> <p>The North Carolina Museum of Natural Sciences integrated climate education into public events (<i>e.g.</i>, BugFest, Science Cafes, etc.) and recycling in public and staff-only areas utilizing graphics provided by DNCR.</p>
<p><b>Run the NC Museum of Natural Sciences Teen Science Ambassadors</b></p> <p>Status: Ongoing Expected Completion Date: 2024</p> <p>The North Carolina Museum of Natural Sciences managed an external program, Teen Science Ambassadors, to increase science literacy among middle school and high school students.</p>
<p><b>Host an NC Museum of Natural Sciences Lunchtime Discovery Series</b></p> <p>Status: Ongoing Expected Completion Date: Ongoing</p> <p>The North Carolina Museum of Natural Sciences hosts a Lunchtime Discovery Series Webinar with a presentation and public question and answer session. One podcast, for example, was entitled, <i>The Other Side of Environmental Injustice: Parks and Greenspace Inequity in Marginalized Communities</i>. All sessions are hosted on the NC Museum of Natural Sciences' YouTube channel.</p>
<p><b>Add an Environmental Education Center at Prairie Ridge</b></p> <p>Status: Underway Expected Completion Date: 2025</p> <p>The Museum of Natural Sciences is working on a new environmental education center at the Prairie Ridge facility in Wake County. The Center will aim to engage and educate visitors on environmental science and integrate the environmental science curriculum with the Museum's other exhibits and overarching mission.</p>
<p><b>NC Zoo Environmental Stewardship</b></p> <p>Status: Ongoing Expected Completion Date: Ongoing</p> <p>Environmental Steward/EMS Certification – a continued DEQ "Environmental Steward," and maintenance of ISO 14001 Environmental Management System Certification.</p> <p>The Zoo continuously works with its food service partner, SSA, to reduce the use of single-use plastics, and to expand composting activities. The Zoo provides reusable or compostable cutlery, plates, and packaging, and has eliminated plastic drink bottles.</p>
<p><b>Run NC Aquarium Public Programs Focused on Climate Change</b></p> <p>Status: Ongoing</p>

Expected Completion Date: Ongoing

DNCR launched programs on several topics related to climate change (e.g., ocean acidification, temperature change and reptile impacts, wind and solar energy, geothermal program, climate clues and renewable energy challenge) and its impacts on ecosystems and ocean life. Staff are receiving training through the National Network for Ocean and Climate Change Interpretation to cover this topic more effectively. DNCR staff have already incorporated conservation messaging in signage including specific actions people can take to reduce their use of fossil fuels and plastics.

#### Offer NC Museum of Art Arts and Science Minicourse

Status: Ongoing

Expected Completion Date: Ongoing

The North Carolina Museum of Art created Arts and Science professional development minicourses for teachers including emphasis on how the design of the Museum's Art Park is geared toward sustainability.