

Our



Natural Resources

N.C. Department of Environment and Natural Resources

2013 Natural Resources Divisions Annual Report

Today
Tomorrow
Forever

EXECUTIVE SUMMARY

17,600,000

That's the estimated number of people who visited North Carolina's Aquariums, Museum of Natural Sciences, Parks and Zoo during fiscal year 2012-13. Another 620,000 or so benefited from services offered by the Division of Marine Fisheries.

These numbers offer proof that the people of this great state value and appreciate the natural resources whose stewardship is entrusted to the dedicated staff in the Department of Environment and Natural Resources. Their commitment stems from a constitutional mandate to "conserve and protect its lands and waters for the benefit of all its citizenry . . . as part of the common heritage of this State."

People enjoying our assets forge a kinship with the natural environment. Fishing traditions are passed from one generation to the next with rod and reel in hand. Zoo and Aquarium animals serve as ambassadors for their wild cousins around the world. Museum patrons learn the secrets of DNA and the

mysteries of the cosmos. State Parks invite residents and visitors to experience our most cherished lands, from the peak of Mount Mitchell to the dunes of Jockey's Ridge.

Stewardship of our natural resources boosts the state economy. Our assets are drivers for tourism, business and industry, and they are a major part of what makes North Carolina a highly desirable place to live and work. Their reputation and sustained excellence is a principal reason our state is the sixth most visited in the country.

While much of our work is related to recreation, it also brings tangible taxpayer benefits. Our facilities and open lands provide deep and meaningful educational opportunities for school children and

researchers. They foster health and well-being by encouraging exercise and time spent with family and friends. Perhaps most notably, these assets conserve natural resources and preserve the heritage that makes North Carolina unique.

The following pages provide overviews of our Aquariums, Marine Fisheries, Museum of Natural Sciences, Parks and Zoo. Our goal is to be an exceptional steward of these assets and of the taxpayer dollars allocated for their protection and operation. We continue to pursue operational improvements and efficiencies to maintain and increase this level of excellence while providing North Carolinians and visitors with the services and experiences they deserve.

Aquariums

Fast Facts

Full-Time Employees:	146
Volunteer Hours Received:	49,773
Total Budget:	\$11.9 million
Appropriation:	\$7.2 million



Mission

North Carolina's Aquariums seek to inspire appreciation and conservation of our state's aquatic environments.

At a Glance

- Established in 1976, the division features Aquariums at Fort Fisher, Pine Knoll Shores and Roanoke Island, plus Jennette's Pier in Nags Head.
- Division hosted more than 1.4 million visitors in 2013 at sites with combined space of 270,000 square feet and 71 acres.
- All told, the Aquariums and Pier are home to more than 300 animal species and more than 9,000 individual specimens. The volume of water in all exhibits exceeds 1.3 million gallons.
- The four sites combine to employ more than 300 staff members. Additional support is provided by an estimated 850 volunteers.

Highlights & Spotlights

- Fort Fisher was named as one of the "20 Best Aquariums in the U.S." in 2013 by the Travel Channel.
- Visitors to Roanoke Island enjoyed a new, sound-side pier that provides a valuable venue for educational and recreational programs.
- Pine Knoll Shores' reputation for its sea turtle rescue and rehab program has never been stronger; since the facility's founding in 1976, it has hosted more than 700 sea turtles.
- Jennette's Pier, in just its second full year as part of the division, continues to be lauded for its Platinum LEED certification from the U.S. Green Building Council.
- Roanoke Island welcomed Bleu, a leucistic alligator who has no pigment and blue eyes. Already residing at Fort Fisher is Luna, an albino alligator. Both came to North Carolina from the Louisiana coast.
- One of the many examples of the Aquariums providing community support came at Roanoke Island, where its popular Shark Dive program again regularly welcomed Wounded Warriors members. A video went viral showing members diving into the 285,000-gallon tank as part of the Graveyard of the Atlantic exhibit.



Efficiency of Operations

While appropriations have decreased by 24 percent in the past five years, revenues have shown a 45 percent increase, bolstered by the addition of Jennette's Pier, a regular host to beach volleyball, surfing and fishing tournaments. Both the Aquariums and Pier are busy after hours as well, hosting weddings, reunions, receptions and other events.

As part of the division's plan to increase private funding for its operations, admission fees have been increased \$2.95 across the board this year. Our admission fee (a top price of \$10.95 for adults) remains an excellent value, as the admission fees at peer institutions typically are 30 to 50 percent higher. N.C. school groups continue to be admitted free of charge; approximately 60,000 annually visit through this program.

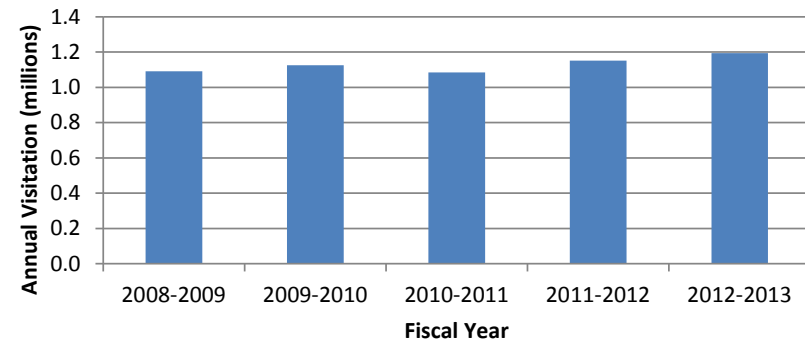
The North Carolina Aquarium Society, with more than 20,000 members, has been cited regularly as being among the top zoo and aquarium non-profits in the nation. It provides significant annual support.

Looking Ahead

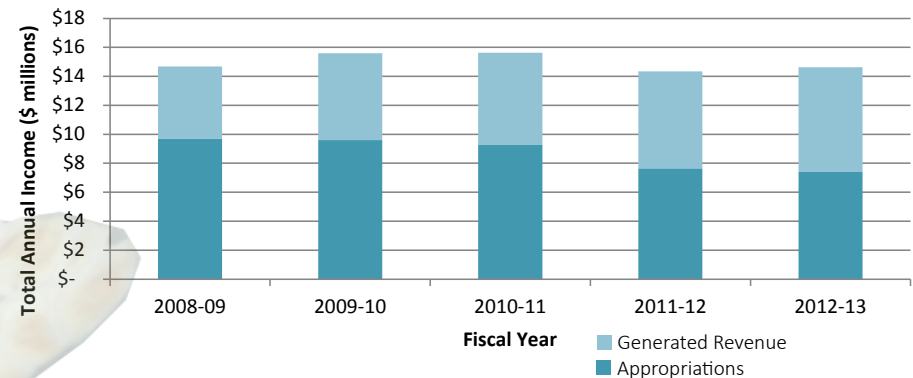
Continued revenue and attendance growth is a priority for the division, and enhancing the visitor experience is one key to meeting this challenge. Improvements are under way at each of the Aquariums, including a \$5 million renovation at Roanoke Island starting in late 2014. Also at Roanoke Island, a sea turtle assistance and rehab center is expected to debut this summer. And at Fort Fisher, an exotic butterfly house will be opening this spring as part of a four-year rotating exhibit that also will feature lorikeets (a type of colorful parrot).

The division has amended its memorandum of agreement with the N.C. Aquarium Society. These changes are intended to amplify the society's fundraising role in support of the Aquariums and Pier. The division also is developing a plan to transition many part-time employees to permanent-employee status as part of a strategic planning process designed to best position its assets long-term.

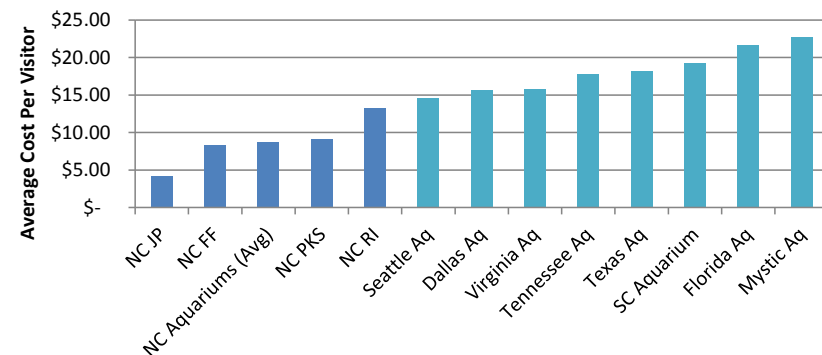
Annual Aquariums Visitation



Total Annual Aquariums Expenditures



Average Cost Per Visitor



Marine Fisheries

Fast Facts

Full-Time Employees:	273
Fishing Licenses Issued:	482,831
Total Budget:	\$26.4 million
Appropriation:	\$15.8 million



Mission

The North Carolina Division of Marine Fisheries is dedicated to ensuring sustainable marine and estuarine fisheries and habitats for the benefit and health of all citizens.

At a Glance

- North Carolina's marine jurisdiction includes nearly 1,000 square miles of open ocean and 3,600 square miles of coastal rivers and sounds; that is more estuarine waters than in any other state.
- Our state's location is at the convergence of both warm and cool ocean currents, which supports a diverse mix of northern and southern fish species that migrate along the East Coast. Our abundance of wetlands, oyster reefs and aquatic grasses support these fish, making their protection a matter of state and national importance.
- The division is composed of 10 sections, including more than 320 staff members who work out of seven coastal offices.

Highlights & Spotlights

- North Carolina made history in 2013 as the only state ever to gain an incidental take permit from the federal government for a statewide observer program. Incidental take permits protect fishermen who accidentally interact with sea turtles from fines and other legal consequences stemming from the Endangered Species Act.
- For the last year in which data is available, the division developed or implemented 13 state fishery management plans and 36 interstate and federal plans.
- Issued 22,533 commercial fishing licenses and 460,298 coastal recreational fishing licenses.
- Managed more than 50 biological sampling projects producing approximately 500,000 data records.
- Logged 63,241 vessel, vehicle, and aircraft patrol hours.
- Completed 151,818 vessel, fishermen, and seafood dealer compliance checks.
- Interviewed more than 20,000 recreational anglers.
- Collected 13,249 water quality samples.
- Made 1,367 shellfish sanitation inspections.
- Completed 15,156 shoreline inspections and field visits for potential shellfish pollutants.
- Placed 149,300 bushels of oyster cultch material on oyster cultch planting sites.
- Constructed 22.8 acres of fishing reef/oyster sanctuary.
- Provided educational programs to 153,325 people.



Efficiency of Operations

In 2012, the last year for which such data is available, recreational fishermen took 5.1 million trips in coastal North Carolina and 3,167 commercial fishermen plied our waters. Their successes totaled 67.4 million pounds of fish, which provided fresh, local seafood to both our state's residents and those around the world.

The fisheries supported 9,500 jobs, which resulted in an estimated economic impact of \$707.2 million. The cost to manage these fisheries? Just \$26.5 million, or 3.7 percent of the fisheries' economic value.

This efficiency is even more impressive considering that sections managed by the division have had their appropriated operational budget reduced by 33 percent since fiscal year 2010. (The shellfish sanitation and recreational water quality section was transferred from the Department of Public Health in 2011, complicating direct budget comparisons between these years.) Further, the division has cut 32 appropriated positions during this time, 11 of which were shifted to other funding sources.

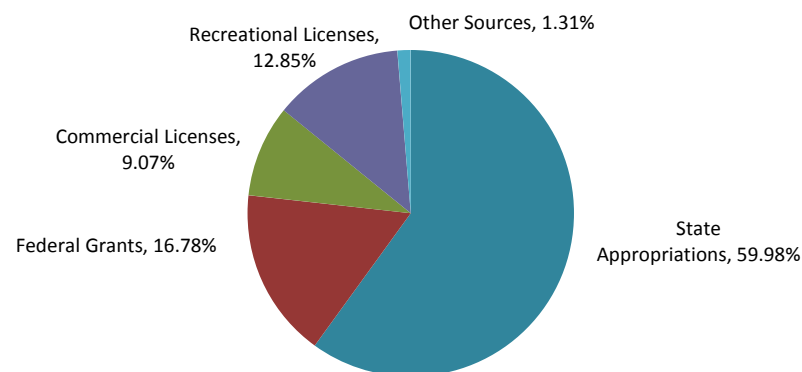
Our division is routinely lauded by its peers for the quality and depth of the data it collects on North Carolina's fisheries. This respect has been demonstrated by the naming of the division's director as chair of the Atlantic States Marine Fisheries Commission and another member of the division staff serving on the South Atlantic Fisheries Management Council.

Looking Ahead

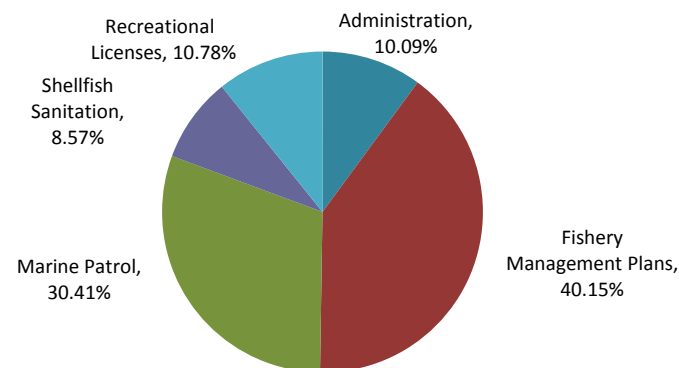
North Carolina continues to be unique among the Atlantic coastal states in its mission and approach to fisheries management. Among its many charges, the division monitors the health and availability of fish and shellfish, enforces fishing laws and rules, protects recreational swimmers, enhances fish habitat, educates the fishing public and represents the state on federal and regional governance bodies.

As part of its ongoing commitment, the division works closely with the Marine Fisheries Commission, which establishes fisheries rules and is supported by the division's staff and programs. Both the commission and division are guided by the provisions of the 1997 Fisheries Reform Act, which "recognizes the need . . . to balance the commercial and recreational interests through better management of these resources."

Division of Marine Fisheries Revenue Sources: FY 2014



Percent of Total Division of Marine Fisheries Expenditures for FY 2013



Museum of Natural Sciences

Fast Facts

Full-Time Employees:	149
Volunteer Hours Received:	67,953
Total Budget:	\$12.8 million
Appropriation:	\$12.1 million



Mission

Through its exhibits, programs and field experiences, the N.C. Museum of Natural Sciences seeks to enhance the public's understanding and appreciation of the natural environment.

At a Glance

- The Museum's origins date to 1879. The Nature Exploration Center (NEC) opened in 2000. The adjacent Nature Research Center (NRC) opened in 2012.
- Satellite Raleigh locations include the Research Laboratory and the Prairie Ridge Ecostation. The Museum also operates the N.C. Museum of Forestry in Whiteville.
- The downtown Raleigh facility is the largest of its kind in the Southeast with over 290,000 square feet and operates with more than 200 full/part-time staff.

Highlights & Spotlights

- Recognized in 2013 as among the "Top 20 Museums in the U.S." for outstanding community service among the nation's 17,500 museums.
- Recognized as an Institute of Library and Services finalist in 2013.
- Museum researchers are frequently integral in discoveries of new species, including the recent high-profile discoveries of the Olinguito (the first carnivorous mammal described from the Americas in 25 years) and Siats meekerorum, the first mega-predatory dinosaur described from North America in 65 years.
- A North Carolina astronaut fielded live questions from space by visiting students using the Museum's state-of-the-art communications technology.
- Professional staff was supported by more than 60,000 hours of volunteer assistance in the past year.



Efficiency of Operations

With more than 1 million visitors in 2013, the Museum was the state's second most visited cultural attraction, trailing only the Biltmore Estate. A boom came the previous year with the opening of the Nature Research Center, which increased visitation by nearly 60 percent and the facility size by more than 30 percent. Yet in the past decade, its operating budget has risen only 16 percent.

In a sampling of 11 peer science and natural history museums across the U.S. of varying size, ranging from the landmark American Museum of Natural History in New York to the modest-sized Virginia Museum of Natural History, our facility stood out as among the most intensely used and most economical per square footage.

Among the key findings, our Museum has the highest annual onsite attendance relative to its local population; posts the second lowest annual operating cost per visitor (less than half of the average); and hosts twice as many people per square foot compared to the average.

The Museum's initiatives are supported annually by the Friends of the N.C. Museum of Natural Sciences, a private, non-profit group founded in 1979.

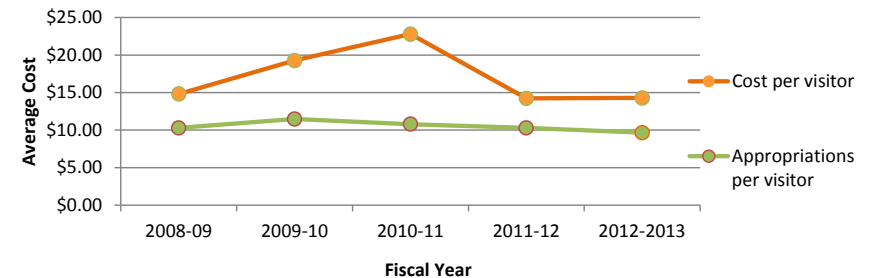
Looking Ahead

The Museum is widely considered one of the state's most vibrant treasures. The Nature Exploration Center presents what we know about North Carolina's awesome and vast natural assets. The Nature Research Center wing has a worldwide focus and engages visitors in scientific research, providing evidence of "how we know."

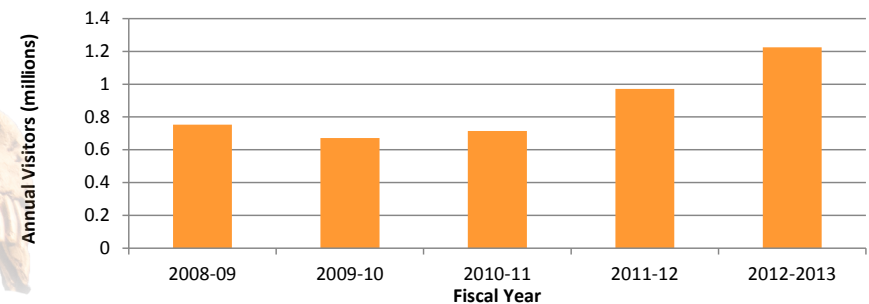
In recent years, the Museum has established new global benchmarks, achievements and efforts that are at the forefront of thought and practice in its field. Further, the 134-year-old institution is charting new territory with its collections, research, and multifaceted learning resources.

Additional proof of its glowing – and growing – reputation will be evident this October 18-21 when the Museum, at the selection of the U.S. Department of State, hosts the Association of Science-Technology Centers (ASTC) annual conference. This event is expected to bring an estimated 2,000 attendees from more than 40 countries to North Carolina, which will provide a fantastic opportunity to showcase our world-class Museum.

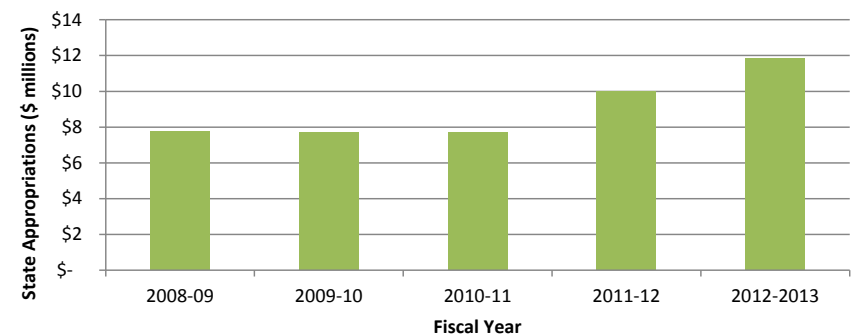
Museum Average Cost Per Visitor *



Annual Museum Visitation *



Annual Museum State Appropriations *



* Note: Statistics are influenced by the Nature Research Center's (NRC) opening in 2012.

Parks & Recreation

Fast Facts

Full-Time Employees:	458
Volunteer Hours Received:	53,894
Total Budget:	\$48,066 million
Appropriation:	\$40,829 million



Mission

The North Carolina Division of Parks and Recreation strives to protect our state's most outstanding natural features, to provide healthy outdoor recreation for citizens and visitors, and to encourage good stewardship of our natural resources by education and by example.

At a Glance

- Manages nearly 220,000 acres of land and water in N.C., including 39 state parks and recreation areas, 20 natural areas, seven state lakes, four state rivers and four state trails (all referenced as "Parks" for this discussion)
- Hosts approximately 14 million visitors annually, who benefit from services provided by more than 950 staff members, including seasonal staff.
- In the past 25 years, our Parks have witnessed an eye-opening 87 percent increase in annual visitation.
- While our Parks rank 21st nationally in acreage and 15th nationally in the number of citizens served, they remarkably are the fourth lowest in operating expenses per capita (\$3.46).

Highlights & Spotlights

- The division was honored in 2013 as a National Gold Medal finalist (one of only four states so honored) for excellence in parks and recreation management. The distinction marked the fourth time in ten years that the division has been recognized.
- Carvers Creek State Park, located north of Fayetteville in Cumberland County, opened September 2013, providing visitors with 4,332 acres to enjoy. Within the park is the Rockefeller House, completed in 1938 and reputed to be the preferred vacation home of James Rockefeller.
- Several new sections of the 1,000-mile Mountains-to-Sea State Trail (MST) opened in 2013, including the four-mile Clayton River Walk and a new section of Raleigh's popular Neuse River Greenway Trail.
- Lake James State Park, which straddles Burke and McDowell counties, opened the Holly Discovery Trail, a new concept that brings professionally designed interactive exhibits to the outdoors.
- The division performed 34 controlled fires totaling a record 1,500 acres in 2013. In addition to promoting healthy natural habitats, controlled fires reduce the fuel available for wildfires, promoting public safety and reducing firefighting costs.
- Park rangers, for the first time, partnered with the N.C. Division of Tourism to report fall color updates, a major driver of seasonal tourism.



Efficiency of Operations

State Parks generate revenue from camping and swimming fees, facility rentals, food and retail sales, operating contracts for marinas and restaurants, and pier permits at state lakes. Parks also are able to grow revenue by increasing occupancy rates at campgrounds, expanding retail and web store sales, and by renewing operating contracts for marinas and other concessions at more favorable rates.

A closer examination of per capita operating expenses provides evidence of the remarkable efficiency of the North Carolina state parks system's operations, especially when compared to neighboring states. North Carolina spends \$3.46 per citizen, while Virginia (\$4.30), Georgia (\$4.92), South Carolina (\$5.36) and Tennessee (\$12.53) are significantly higher. In fact, we rank as the fourth lowest state in per capita operating expenses. Further, our operating cost per visitor (\$2.30) is the 17th lowest in the country – and again lower than each of our neighboring states.

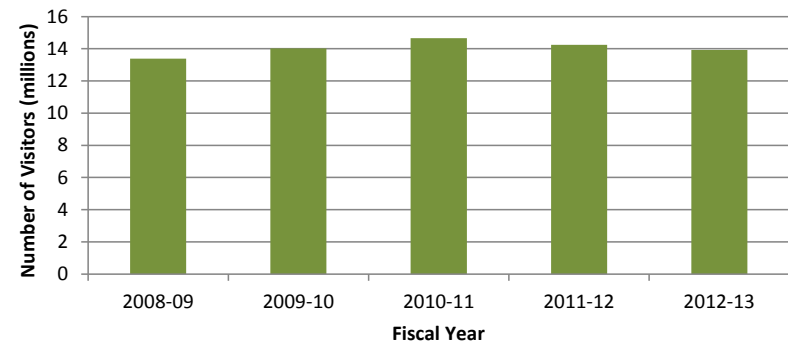
Additional support to our Parks comes from the N.C. Parks and Recreation Trust Fund (PARTF), which allocated more than \$25 million for fiscal year 2012-13 to build new and improve existing facilities. Funding for PARTF was reduced to \$11 million for fiscal year 2013-14.

Looking Ahead

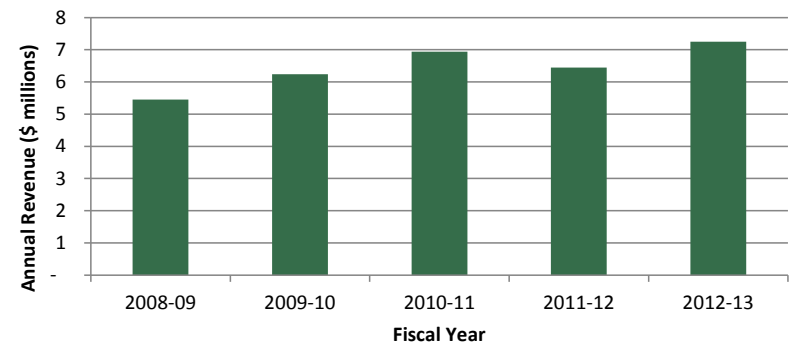
With 74 venues spanning from the far western regions to the coastal areas, North Carolina's Parks are constantly evolving. Most notable in 2014 is the expected completion and opening of a new visitor center (and West District office) at Lake Norman State Park. Despite hosting more than 500,000 visitors annually, this park previously has not had a visitor center. The center will include an auditorium for public use, a classroom for educational programming and innovative educational exhibits.

In 2016, North Carolina will celebrate the state park system's 100th anniversary. The division plans a yearlong series of special events, exhibits and activities designed to both honor and highlight a century of excellence in service. We also see the 100th anniversary as an opportunity to strengthen our facilities and potentially raise private support.

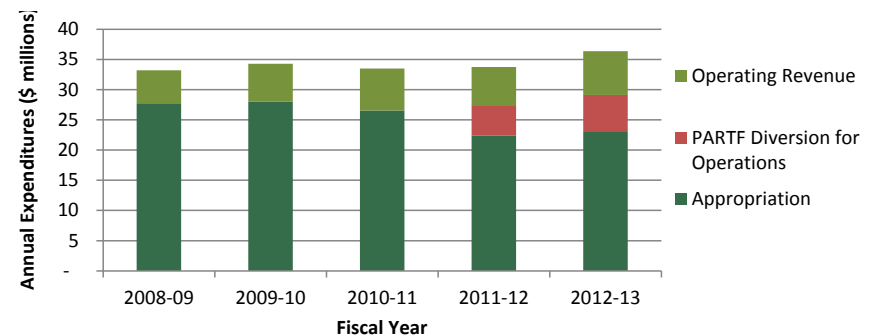
Annual State Parks Visitation



State Parks System Operating Revenue



Division of Parks and Recreation Annual Operating Expenditures



Zoological Park

Fast Facts

Full-Time Employees:	231
Volunteer Hours Received:	40,889
Total Budget:	\$18.4 million
Appropriation:	\$10.7 million



Mission

The North Carolina Zoological Park strives to connect people to nature in order to promote a better understanding of, and commitment to, the world's wildlife and wild places.

At a Glance

- Located southeast of Asheville, the facility opened in 1974 and hosts nearly 750,000 visitors annually, including more than 100,000 children who attend with school groups for free.
- Is the world's largest Zoo, with landholdings approaching 2,200 acres and 500 acres of exhibits. Also was the nation's first state-supported Zoo.
- Home to more than 225 animal species and 2,200 plant species, representing the continents of Africa and North America.
- Employs more than 390 staff members and generates an estimated \$150 million annually for the regional economy.

Highlights & Spotlights

- Successfully hosted the American Association of Zoo Keepers' annual conference.
- Joined a partnership of world conservation organizations in creating software that is expected to revolutionize global wildlife enforcement and conservation management.
- Attained Steward level in DENR's Environmental Stewardship Initiative, recognizing an exemplary management system that minimizes its impacts on the environment.
- Hosted the return of an animatronic dinosaurs exhibit, achieving more than \$450,000 in revenues.
- Benefited from 41,000 hours of volunteer work in customer service, exhibit interpretation and wildlife rehabilitation.
- Completed the renovation of the existing polar bear exhibit and construction of additional restrooms at the Watani Grasslands.



Efficiency of Operations

Appropriations have decreased by 14 percent since 2008, yet the Zoo has been able to increase revenues by 26 percent during the same period. It also operates with a smaller budget than many of its peer institutions.

The Zoo's use of its expert staff has also resulted in significant savings in construction costs for the state. Staff members design and construct the rockwork, exhibit landscapes, holding area caging, hydraulics, and interpretive displays for all exhibits. As an example, while elephant exhibit costs typically exceed \$30 million, the Zoo utilized its talent and resources to construct its world-class exhibit and holding area for only \$8 million.

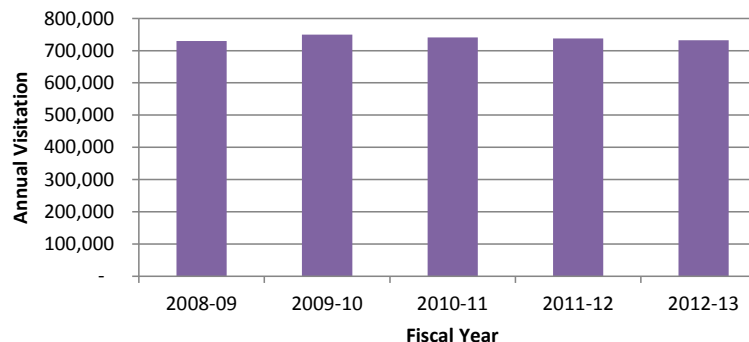
The contributions of the N.C. Zoo Society also provide substantial support. During the past five years, average contributions to the Zoo have exceeded \$1.5 million annually. These funds support the facility operations and also support worldwide animal conservation efforts, a critical aspect of the Zoo's mission and its accreditation by the Association of Zoos and Aquariums.

Looking Ahead

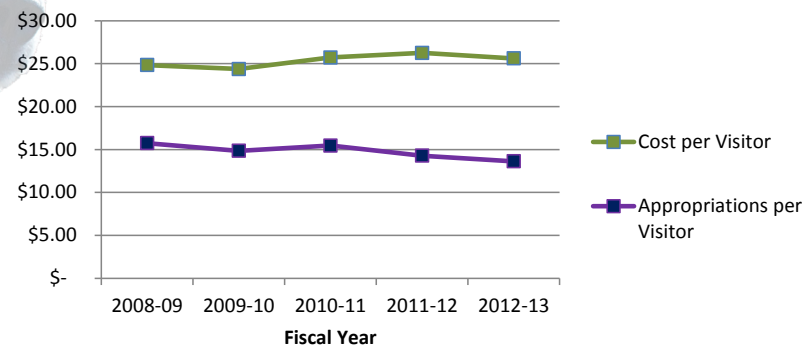
The Zoo's rural location in the Uwharrie Mountain region provides both opportunities and challenges. The expansive property affords spacious accommodations for exhibits and visitors but requires significant maintenance. Its location also distinguishes it from its peer institutions, where closer access to urban populations, amenities and infrastructure help drive attendance figures.

The facility is a natural focal point for economic development in Asheboro and the neighboring regions. In 2013, the proposed U.S. Highway 64 bypass and the Zoo Connector were fast-tracked, which would ease local traffic congestion while enhancing access to regional population centers. Improved access via the Interstate 73/74 corridor, coupled with the Zoo's abundance of land, suggests potential partnerships to develop hotel and conference facilities that would encourage overnight and multi-day stays.

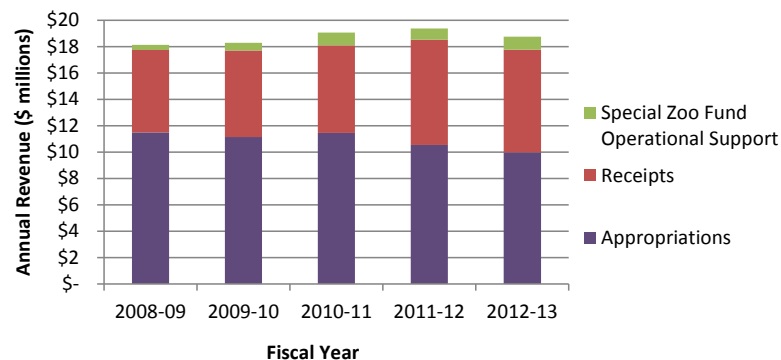
Annual Zoo Visitation



Zoo Efficiency Metrics



Annual Zoo Expenditures





North Carolina Department of Environment and Natural Resources