



NATURAL TUNNEL STATE PARK
ROUTE 3, BOX 250
DUFFIELD, VIRGINIA 24244-9361

Natural Tunnel State Park MASTER PLAN

Excerpts from the 2000 Master Plan
And the 2009 Master Plan Amendment



Department of Conservation & Recreation

CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

Natural Tunnel State Park **2009 Master Plan Amendment**

(This amendment was adopted on April 28, 2009. The Master Plan is scheduled to be updated in October 2014 and at that time the cost estimates for phased development and staffing/operations will be revised.)

The master plan for Natural Tunnel State Park was adopted on May 16, 2000, by Department of Conservation and Recreation (DCR) Director David G. Brickley. Since adoption of the 2000 plan, several land acquisitions have been completed, including property along Stock Creek. Some buildings on the purchased property have been converted for use as an interpretive center/housing facility and a barn that provides storage and program support. Since the last plan was formulated, several projects have been completed:

- The Wilderness Road Block House and Visitor Center have been built.
- Several trails have been constructed, including the Purchase Ridge Trail, Gorge Ridge Trail, Tunnel Hill Trail, and a Birding and Wildlife Trail.
- A new road to serve the campground and cabin area has been completed.
- Eight new cabins are under construction.
- A new campground loop is under construction.
- The park has been connected to the county water system.

Given the addition of new acreage, State Park staff have revisited the master plan to ensure that proposed facilities were properly located to meet program needs. The following adjustments and additions are being proposed to the adopted master plan as a result of this analysis.

- Adjacent land that has been identified as being crucial to protect the park setting and the viewshed were mapped. An effort should be made to protect the open, undeveloped nature of these lands either through fee-simple acquisition or the use of conservation easements.
- Overhead utilities within the park should be placed underground.
- The park office should be replaced with a new, larger office. The park office site should be relocated in order to better handle camper and cabin guest registrations and administer the park more efficiently.
- The access trail to Bowling Cave should be upgraded.
- The maintenance/operations building should be relocated.
- The water storage building should be converted to a camp store.
- A group camp should be constructed.
- Additional trails should be constructed, including one to connect the Cove Ridge Trail to the National Forest.
- A playground should be added to the overnight area.
- Seating at the amphitheater should be expanded.
- A comfort station should be built at the observation deck/gazebo.

- An interpretive log cabin should be added at the Wilderness Road Interpretive Area.
- A satellite canoe put-in/take-out site should be secured on the Clinch River.

A public input meeting was held on April 15, 2009, at Natural Tunnel State Park. The meeting was well attended, and the public supported the recommended changes to the master plan.

The Board of Conservation and Recreation recommended adoption of these amendments at their meeting on April 28, 2009. Based on the requirements of §10.1-200.1 et seq., these proposed amendments are approved and made part of the Master Plan for Natural Tunnel State Park.

_____/S/_____
Joseph H. Maroon, Director
Department of Conservation and Recreation

June 10, 2009
Date

Natural Tunnel State Park

Excerpts from the 2000 Master Plan

(Adopted by DCR Director David G. Brickley on May 16, 2000.)

The purpose of this comprehensive plan is to revise and update the original Natural Tunnel State Park Master Plan, which is now more than 20 years old.

Natural Tunnel and approximately 567 acres were purchased in 1967 by the Virginia Division of State Parks from a private company known as Tunnel Chasm and Caverns Corporation. The Park was officially opened in the spring of 1971, with picnic area, visitor center (formally an old motel building) and parking.

In 1993, an adjacent parcel of land, the Taylor Property, was acquired containing mostly agricultural land, a residence, and two barns.

Natural Tunnel is believed to be about one million years old and started forming during the early part of the □Pleistocene Epoch□ Several theories exist as to how the tunnel was formed, but it is apparently the remnant of a much larger cave that once extended for a greater distance both north and south from its present entrances. The tunnel was initially formed at or near the water table by ground water bearing carbonic acid that percolated through cracks and crevices that slowly dissolved the surrounding limestone and dolomite bedrock. After the cave was formed and the regional water table lowered, Stock Creek was probably diverted underground, further enlarging the Tunnel.

To give the park visitor an idea of the size of this phenomenon, were it possible to place the famous Natural Bridge of Virginia at the entrance, there would be 90 feet of wall remaining at the top of the tunnel rim and on either side would be over 200 feet of space. Compared to Niagra Falls, the walls of Natural Tunnel average over 145 feet higher or nearly twice the height of the famous falls. The tunnel opening is approximately 850 feet long and 175 feet wide and the average height is 100 feet.

The Indians were the first to discover Natural Tunnel, but Daniel Boone was probably the first white man to see it. In 1769, Boone began blazing what is known as the Wilderness Trail from the Carolinas to Kentucky. Through Boone and those who followed, word of this natural wonder spread. Later, Natural Tunnel was heralded as the □Eighth Wonder of the World□ by William Jennings Bryan, a famous statesman and spokesman. Teddy Roosevelt, the 36th President of the United States, made it a point to have his train stop at the north end of the tunnel during one of his campaign trips.

During the Civil War, the tunnel was mined for saltpeter by the Confederate Army. Saltpeter, a key ingredient in gunpowder, was very scarce at the time. Several of these mines can be seen in and around the tunnel. In 1890, the South Atlantic and Ohio Railroad arrived and made use of the natural formation, laying tracks through the Tunnel. Only 200 feet of additional construction was needed to provide a straight line for the roadbed. In 1906, the line was acquired by Southern Railroad and in the 1920's, a dance pavilion was constructed near the entrance to the Tunnel. This proved to be a popular

space for social gatherings on Sunday afternoons for train passengers from Bristol and the surrounding areas. Today, the line is mainly used by Norfolk-Southern, with CSX and Seaboard sharing the route, to transport coal to various power plants in the southeastern United States.

Proposed Developments

The state park master plan process is described in §10.1-200.1 of the *Code of Virginia*. The code states that stage two shall include size, types and locations of facilities, and the associated infrastructure including roads and utilities. The plan also includes a proposed plan for phased development of potential facilities and infrastructure as well as development cost and operational, maintenance, and staffing needs. The above requirements were met through work meetings with park staff and a technical advisory group. A public meeting was held to obtain input from the general public.

The majority of the facilities that are proposed for development are located in the Camp/Recreational /Picnic Unit.

Campsites: An additional 50 sites will be constructed in an area adjacent to the present campgrounds. These sites will have water and electric hookups. There will also be a restroom with showers constructed to serve the additional sites. Utilities, water, and electricity will need to be provided in this area for the campsites and restroom. These sites are to be designed in consultation with the Division of States Park's Campground Management Manual. The manual was developed by the State Park Campground Working Group.

Cabins: Twelve housekeeping cabins will be constructed. The new cabins to be built would be comparable to those in other Virginia State Parks. They will consist of two bedrooms, kitchen, bathroom, and dining/living area. Road improvements will need to be made to provide adequate access to this area of the park. Utilities, water, electricity, and sewer will need to be provided. Parking space for two vehicles will be provided for each cabin.

Restroom: Presently, there are no restroom facilities located near Shelters 1 and 3 in the picnic area. A new restroom will be constructed between Shelters 1 and 3. Utilities, water, electricity, and sewer will need to be provided.

Picnic Shelter: There is a need for one additional shelter in the picnic area. This shelter will be similar to those already in the picnic area, and water and electricity will need to be provided.

Heat the Existing Swimming Pool: Presently the pool season is limited due to the relatively cool climate. The pool is located next to the Cove Ridge Center and serves as an amenity to the center. Heating the pool will expand the timeframe when it can be used and would be a selling point to groups that are considering renting the facility.

Lodge/Restaurant: The lodge/restaurant would be located to take advantage of the views offered from the site to areas beyond the park boundary. It would contain approximately 130 units and a restaurant. The facility should be designed to permit meetings or parties for groups.

Road access, parking and all utilities (water, electric, sewer, telephone) will need to be provided.

Ridge Trail: A two mile trail along the ridge will be constructed that will connect the park and its facilities to areas outside the park such as the Jefferson National Forest.

Open Area/Play Field: Presently there is not a level open area for park visitors to use for activities. An area approximately 250' x 400' will be located in the picnic area for general use such as soccer and ballgames.

Fishing Pond: A two acre fishing pond will be constructed. The pond will be located near the proposed cabins.

Operation and Management Costs

Costs of developing and operating the park are considered from two aspects. First, there are the costs associated with park operation under the present (1999) conditions. These costs are reflected in the Park Operating budget, which is a component of the total General Assembly budget allocation to the Department of Conservation and Recreation. Costs associated with the proposed development are provided below; additional funds necessary for inventorying, protecting, and enhancing the natural and cultural resources of the park are also identified.

The second aspect is the capital and maintenance reserve costs that will be required to develop the park as described in the master plan. These estimates are in 1999 dollars and will need to be adjusted for inflation in future years. All capital and maintenance reserve projects are required to go through an internal and/or state mandated environmental review process to ensure that future construction minimizes or avoids impacts to sensitive natural areas, karst areas, viewsheds, cultural or historic resources, or areas containing heritage resources. These costs are contained in the Phasing Plan, which is included in this section of the master plan.

The additional facilities and expanded program offerings proposed in the master plan, including those funded through the 1992 Bond referendum, will lead to increased visitor use in the park, which will require additional staff and operating support. In addition, to adequately maintain the new facilities and ensure quality programming, additional staff and operating funds will be required. Maintenance costs could be minimized if, during the design phase, consideration is given to energy efficient and low maintenance fixtures and materials.

To support the proposed development, funding for staffing will need to increase by approximately \$107,897. This amount would provide salary and fringe benefits for three

new permanent employees including an assistant park manager, who would assist with the day to day operational requirements of the park, thus allowing the business manager to focus more on the concession and Cove Ridge Center operations. Also included would be a chief ranger and a park ranger to assist with resource management activities and to address the additional programming and maintenance requirements of the Cove Ridge Center and other new facilities proposed in the master plan.

In addition to increased staff, the annual maintenance and operating costs are projected to rise by about \$149,890, of which \$74,990 would be allocated to seasonal wages. The remainder covers supplies and materials to support the new and proposed facilities and program offerings. These costs do not reflect the additions that would be needed for the Phase 3 project to heat the swimming pool or the Phase 4 proposed lodge and restaurant.

Resource management needs during the next budget cycle are projected to be about \$25,000, with an expectation that this amount would be needed over the next several bienniums in order to properly inventory, monitor, and maintain the natural and cultural resources found at Natural Tunnel.

The table on the next page outlines the operating and staffing requirements.

OPERATING AND STAFFING REQUIREMENTS		
STAFF: Existing	Proposed	Future
Park Manager		Park Manager
Business Manager		Business Manager
	Assistant Park Manager	Assistant Park Manager
Program Support Tech.		Program Support Tech.
Chief Ranger	Chief Ranger	Chief Ranger (2)
Park Ranger (3)	Park Ranger	Park Ranger (4)
SALARY TOTAL:		
\$240,954	\$107,897	\$348,851
WAGE TOTAL:*		
\$138,691	\$74,990	\$213,681
OTPS TOTAL:		
\$135,095	\$74,990	\$228,567
TOTAL BUDGET:**		
Budgeted	Proposed increase	Total needed
\$514,740	\$276,359	\$791,099

* Majority of wage dollars expended during peak season.

** All estimates are based on FY1999-2000 dollars.

