

Ohio Department of Natural Resources

Division of Parks and Recreation

Five Year (2012-2016) Forest Resource Management Plan

For

Forked Run State Park

Prepared Cooperatively:

ODNR- Division of Forestry
&
ODNR – Division of Parks and
Recreation
(Name & Title)

(Date)

Reviewed and Approved By:

(Name & Title)

(Date)

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I. **PURPOSE**

The purpose of this plan is to provide the framework for implementation of active forest resource management on the forest in Forked Run State Park. The recently passed House Bill 153 gave enabling authority to the Ohio Department of Natural Resources (ODNR) Division of Parks and Recreation to provide for long-term forest management stewardship of the renewable timber resources in appropriate state park areas. Forest management will be under the guidance of foresters and forest managers from the ODNR Division of Forestry. The Division of Forestry manages over 200,000 acres of sustainably managed state forests and has multiple personnel trained to implement forest resource management on public lands. Although the specific management activities will be unique to conditions at each area, the Division of Forestry will draw on its existing framework in developing plans for each state park. Local state park managers and staff will contribute to each plan and activity, and ultimately will have the final planning decisions.

II. **PARK HISTORY**

Land Acquisition: Forked Run was carved from Shade River State Forest in 1949 after the creation of ODNR. The state park area was selected to include the areas suitable for lake development and other intensive recreation uses. Construction of the park began in 1951 and was finished in 1952 with the construction of the 102-acre Forked Run Lake.

Past Land Management/Uses: The Shade River region was settled after the discovery of coal and the subsequent development of a mining industry in the early to mid 1800's. Nearly all of the forests in the region were repeatedly harvested to provide fuel for iron furnaces that were constructed throughout the Ohio River valley. As the population of the area increased, farms began to spread from the fertile broad river valleys to marginal farms in the upland areas. Soils in the area are typically poor, therefore crop yield and pasture fertility were low. As the agricultural industry entered the Great Depression, many of these farms were abandoned and then purchased by the state decades later.

III. **FOREST DESCRIPTION**

A. General

Property Location Description: Forked Run State Park is located in the hill country of Meigs County in southeastern Ohio. It is just north of the Ohio River near Reedsville in Olive Township. This area is referred to as the "Southern Unglaciaded Allegheny Plateau Section of the Eastern Broadleaf Forest Province" by McNab and Avers (1994) in the Ecologic Subregions of the United States. It is generally bounded on the east and south by State Route 124, on the north by T.R. 278, and on the west by State Route 248. The state park headquarters is located just off State Route 124 near the entrance.

Soils: The Forked Run area contains a large amount of the Upshur-Gilpin complex map unit along with several other smaller map units. This soil association is described on slopes as a well-drained silt loam soil formed primarily as residuum. It is approximately 45% Upshur and 35% Gilpin soils with approximately 20% other minor soils including Rarden, Steinsburg, and Guernsey. All of these soils quickly transition to heavy soils with a high clay content beyond the topsoil layer. This red clay is typical of Meigs County. These soils are limited in their ability as productive farmland and are best suited to forest land.

Water Resources: The majority of the Forked Run State Park is in the headwaters for Forked Run stream, a small creek that feeds directly into the Ohio River. Forked Run is dammed to form Forked Run Lake, a 120-acre lake used for fishing, boating, and swimming.

Access Issues/Transportation: The state park can be accessed from the park entrance off State Route 124 and from Curtis Hollow Rd., T.R. 272. The park is also accessible by foot across the state forest. Timber harvests that will be conducted as part of this plan may be transported by trucks through the park, or when possible loaded on the adjacent state forest and transported from there.

Potential Productivity: There are multiple ways to measure forest productivity. The Site Index Value is a common measurement of how well a certain tree species grows in the place where it is found, thus defining productivity of the tree species. It is highly correlated to available moisture and soil type. Based upon the site indices for Black Oak in the Central Upland Hardwoods (Roach and Gingrich, Ag. Handbook 355, 1968), the average site index for Forked Run State Forest is 60-65. This is a relatively low number that is representative of a soil with poor fertility.

Overstory: Forked Run lies within the oak-history forest type, and contains a heterogeneous composition of forest species referred to as the Central Hardwoods. Principal species include red, white and black oak, red and sugar maple, various hickories, beech, yellow-poplar and ash, with occasional walnut and scattered other species. Native Virginia pines are common throughout the park, mostly on the ridges. These trees were aggressive pioneer species colonizers from previous agricultural uses. Small pure stands of conifers are a result of reforestation projects on previous fields or ornamental plantings.

Understory: Red maple, blackgum, and various oak species make up the majority of the understory. The dominance of red maple in the understory will have an increasing influence on the species composition of the forest. Without active management, the existing oak-hickory stands will evolve into a more northern hardwood cover type.

Herbaceous Layer: The herbaceous layer at Forked Run is typical of Upland Central Hardwoods on poor sites. Black cohosh, ginseng, various orchids and native wildflowers grow in fertile cove areas. On drier sites, grasses, forbs and some wildflowers are common.

Habitat Components and Wildlife Populations: The majority of the area in Forked Run State Park consists of mature oak-hickory forests with associated vegetation and wildlife habitat. In addition, there is aquatic habitat in and around the lake. This habitat draws in different groups of birds and is a focus area for some mammals as well.

Historically wildlife management practices in Forked Run State Park have been limited to:

1. Restrictions on hunting
2. Providing food for birds to increase viewing opportunities

In the past, the land management program on Shade River State Forest has provided some early successional forest habitat. Forest management that will occur in the state park will focus on creating small openings left by individual trees and in some cases small scale even-aged management techniques. This will increase the diversity of habitat within the state park.

The park zoning system, detailed in exhibits 1-3 will guide the types of silviculture prescribed in a given area. Each silvicultural system has an impact on wildlife. Management strategies that favor site-appropriate, native species will be highlighted. In general, uneven-aged systems will favor late-successional wildlife and even-aged systems will favor earlier successional wildlife. It is worth noting that many species typified as late-successional actually require some early-successional habitat for part of their life cycle. Likewise many species categorized as early-successional need some habitat components that are most typical in late-successional forests. Therefore management may benefit nearly all forest dwelling species in some fashion.

The intent in forest cover manipulation is not to directly control or manipulate wildlife. Rather, the intention is to manage primarily for a diversity of habitat types and thereby maximize biological diversity.

Invasive Concerns: Invasive plant species found in the park include garlic mustard, Ailanthus, multiflora rose, Japanese stilt grass, and Japanese honeysuckle. Potential spread of invasive species will be identified at the stand level in the cruise reports. In addition as part of any timber sale contract all logging equipment will be cleaned by the contractor prior to project implementation.

B. Sustained Yield and Forest Level Growth

A complete forest inventory of Forked Run State Park has not been conducted. Future inventory plans are listed under Section IV. It is reasonable to consider that growth information would be similar for counties in the southeast part of the state. The forests in these counties were calculated at 220 board feet per-acre per-year across all types of ownerships. This figure was derived by using the Forest Inventory and Analysis (FIA) data set compiled by the US Forest Service. The FIA data set is a statewide inventory data set that is maintained long-term and provides baseline data for the current and historic conditions of Ohio's forests.

The purpose of these calculations is to provide evidence that future harvests from Forked Run State Park are sustainable and well within the calculated growth.

Forked Run State Park

Total Inventory (board feet)	Total Park Acres	Zones C and D only	Growth Bd F / Yr (Considering only Zone C and D)
Unknown	965	380	83,600

C. Landscape Level Information

Adjacent Forests: Forked Run is located entirely within Meigs County. The landscape in this county is 67% forested. The county averages approximately 5,963 board-feet per-acre according to the most recent FIA data. It is a reasonable assumption that the state park contains a higher stocking of timber volume than does the average private landholding.

Other nearby publicly owned forestlands include the Shade River State Forest, Strouds Run State Park, and Desonier State Nature Preserve, located outside Athens.

Local Social and Economic Conditions: According to 2010 US Census Bureau Data, the population of Meigs County is 23,770. The median household income was \$27,287. Notable large employers in the region include the local schools, Gatling Coal Company, and two health care rehabilitation centers.

State parks in the area help provide a low-cost recreation option for the surrounding community. A public beach and a lake to fish are free to the public. A 145-site campground with electric hookups is available for a nominal fee. The park staff provide hours of nature programs that give educational opportunities.

Climate: Most of Ohio lies within a climatic region classified as humid continental, warm summer phase, with predictable general changes. The mean annual temperature for the Meigs County area is 54 °F with seasonal averages of 72 °F in the summer, 55 °F in the fall, 34 °F in the winter, and 51 °F in the spring. Annual precipitation averages 40 inches with over one-half falling in the spring and summer seasons.

Geology: Forked Run State Park lies entirely within the unglaciated portion of the Appalachian Plateau. Topography of the park ranges from steep hills to narrow floodplains to flat relatively narrow ridge tops. Sandstone and shale outcrops are common, and the topography is heavily dissected, which is typical of land along the Ohio River. Limestone is present, although not as important as the sandstone and shale layers.

Cultural, Historical, & Archeological: The mouth of the Shade River was once known as the Devil's Hole prior to post-European settlement in the Ohio Territory. It was used by Native Americans before and after raids into the state of Virginia (now West Virginia). The Shade River was used by these tribes as a transportation corridor to their villages in the Scioto River Valley. There are no significant archeological features known in the state park.

When Ohio was settled, the area was never highly populated until the discovery of coal, and a few decades later, salt. Mining for these minerals was the major impetus for settlement in the area.

IV. LAND MANAGEMENT GOALS & OBJECTIVES

The overall objective of active forest management in Ohio's State Park system is to provide greater diversity of wildlife habitats and to ensure the natural resources of the State of Ohio are managed responsibly. To accomplish this goal, a system for managing the timber resource while protecting other values in the park will be developed. A zoning classification system will guide potential management in a given park. Zoning will designate areas where harvesting is not appropriate and thereby will continue to be managed as they have in the past. Protection of cultural resources and other sensitive areas will be primary considerations. A benefit of this sustainable resource program include not only improved wildlife habitat and biodiversity, but also providing income to the operating budget of the state park system.

Park Zoning: Management objectives are guided and designated by zone classifications. The descriptions are described in detail in Exhibit 1. Exhibit 2 lists acreages for each zone class in the park.

Cultural Areas: If found, historical sites will be designated for protection through park zoning and/or a preactivity assessment done for historical sites. Additional site assessments may be made by Division of Forestry and Division of Parks and Recreation staff.

Sensitive Areas: Visually and environmentally sensitive areas are common features of state parks. Visual management is guided both by zoning and aesthetic forest management guidelines. Environmentally sensitive areas are managed through Best Management Practices (BMP's) for forest management operations, park zoning, streamside management zones, and pre-activity assessments listed under Section V. Site assessments will also be made by Division of Forestry and Division of Parks and Recreation staff.

Public Recreation and Tourism: Forests are an important aspect of outdoor recreation in Ohio. The ODNR 2008 Statewide Comprehensive Outdoor Recreation Plan (SCORP) shows that there are 3,638 forest-based recreational sites in Ohio. It further shows that Ohio ranks low nationally for per capita outdoor recreation acreage. The SCORP shows that forest-based recreational sites are the most popular; including camping, niche recreation, and trail-based recreation. Due to the potential for negative impact on recreational sites, all planned timber management activities will:

- Have an assessment to determine the season(s) of least likely impact
- Seek to minimize impact to existing trails and facilities
- Where possible, improve trails, wildlife viewing, access roads, and public parking opportunities

Inventory Goals: Since little data currently exists for forests in state parks, an organizational process must first guide future inventories. Using existing knowledge, park zoning, remote sensing data, and topographic features, forest stands will be delineated in the park. Over the next ten years, forest stands with potential for timber management will be inventoried and the data collected will guide future management.

The data the Division of Forestry foresters collect along with forest zoning will determine whether to harvest and the type of harvest to take place. This inventory is commonly referred to as a "cruise". During these cruises, the trees are statistically sampled to give the foresters numerical data that assists in detailing the prescription for that particular area. Tree health, forest health, wildlife and aesthetic values, and tree reproduction are just some of the other important assessments that are made during the cruise. Other areas may be cruised on an as-needed basis to respond to changing forest conditions.

Once the forested stand has been cruised, analyzed, and prescriptions are written, the areas to be harvested are then prepared for the actual harvest operation. This entails painting boundaries around the sale, flagging of skid trails and haul roads that will be utilized, and depending on the type of sale, individual trees may be painted as either leave trees or harvest trees. These preparations will guide the loggers in performing the harvest according to the prescription.

Harvest Restrictions: Harvest restrictions are generally determined by the park zoning, cultural or sensitive areas present, and adjacent uses. These restrictions will be assessed during timber sale preparation.

Harvest restrictions that may be assessed contractually include season of harvest, type of equipment to be used, procedures to distribute logging slash, and rehabilitation guidelines.

A Wet Weather Logging Policy has been designed to protect water quality, public infrastructure, and soil productivity during the harvesting of Ohio state forest timber sales and will also be utilized for guidance in state parks. This policy restricts logging during various states of wet weather conditions to provide for better resource protection.

In all cases, BMPs shall be followed as listed in BMPs for Erosion Control on Logging Roads in Ohio, ODNR - Division of Forestry.

Harvest Amounts: Harvest amounts will never exceed the annual growth listed in Section III-B over a 5-year period. In all likelihood, the annual harvest rate will be significantly lower than this figure. Harvest rates will be evaluated annually.

Special Concerns: Forest zoning is designed to identify areas of special concern. Zone A is designed to protect high value conservation forests due to natural features and historical values. The area surrounding Forked Run Lake is designated zone A for both watershed and recreation protection.

For zone descriptions and more detailed information for the special management considerations for each zone, please see Exhibit 3.

Future defoliation events caused by the gypsy moth caterpillar and the potential arrival of sudden oak death in the Eastern United States are of particular concern to the oak resource in Ohio. Emerald ash borer, a lethal pest found in Ohio, will increase ash mortality in both urban and forested landscapes. Fortunately, there is very little mature ash in Forked Run State Park and the impact of this invasive pest will be minimal.

Movement of firewood around the state has the potential to spread invasive forest pests, such as the emerald ash borer, gypsy moth, and the Asian longhorned beetle. Signs around the campground warn users against transporting firewood from distant areas.

Threatened/Endangered Species: The identification, conservation and enhancement of rare, threatened, and endangered species is of the utmost importance to the Ohio Department of Natural Resources. The Department has a legal obligation to comply with applicable federal and state regulations and a moral obligation to use the tools at our disposal for the conservation of these species. The Division of Forestry will employ several mechanisms to aid in the identification, conservation, and enhancement of rare, threatened, and endangered species on Ohio State Park land that are discussed below.

Pre-Activity Assessment

Prior to any site-disturbing activities, the Division of Forestry conducts an assessment using the most up-to-date relevant data sources available. These data sources include the Ohio Biodiversity Database, formally known as the Natural Heritage Database, administered by the ODNR Division of Wildlife Biodiversity Program. This data is used to plot the actual suspected or known locations of rare, threatened, and endangered species. The results of our reviews can be used by the Ohio Biodiversity Program to update the data set. The staff of the Ohio Biodiversity Program will be consulted about any conflicts and the techniques for mitigation.

Review by Relevant Specialists

Prior to any site-disturbing activities, all reviews that note a positive "hit" of a possible sensitive species are offered to a relevant specialist for a ground survey. A botanist, naturalist, or a biologist is asked to review the site on the ground for species identification and for their recommendation or concerns. Mitigation and recommendations are communicated in the pre-activity assessment documents.

Commitment and Partnerships

ODNR has several conservation plans that are applicable to all public forests. The relevant conservation plans are listed below

- The Conservation Plan for the American Burying Beetle
- The Strategic Plan for the Management of Ohio's Black Bear Population

- The Conservation Plan for the Timber Rattlesnake
- The ODNR Indiana Bat Management Strategy

These plans outline specific objectives, goals and strategies for the recovery, management, and habitat requirements for these species. The Department is committed to complying with the recommendations of these plans. Further, over the next five years the Division of Forestry will:

- Ensure all relevant state forest personnel responsible for management plan implementation of timber management on state parks are trained and have an understanding of these plans and strategies.
- Maintain an active role as a partner in the composition and review of these plans.
- Commit to management efforts to provide restoration possibilities on state parks as budgets allow.
- Commit to the review of our activities by various partners of these plans.
- Promote and enhance our educational efforts for the protection of rare, threatened, and endangered species through landowner education, brochures, trade shows, and public websites.

Consultation with Other Experts and Interested Citizens

The Department actively solicits the input of various experts from academia, non-government organizations, and other partners. Their input on the identification and conservation of the sensitive species is valuable to our work. The Division of Parks and Recreation communicates to the public through an open-door policy at each state park, consultation with local “friends of” park groups, active website, social media, and consultation from the Ohio Parks and Recreation Council.

For the next five years, the Division of Parks and Recreation will:

- Commit to continued solicitation of comments and input from local experts
- Commit to enhancing and refining methods for online communication
- Commit to annual open houses, open meetings, and/or online notification and consultation for any proposed management activities.

Desired Future Conditions: Through future management activities, the Ohio Division of Parks and Recreation looks forward to maintaining and improving a healthy forested environment composed of mixed species stands containing exemplary specimens of representative forest types. Through proper long-term management strategies, the forest will become less susceptible to catastrophic fire and should have a reduced probability of insect infestation and pathogen infection. The forest will also provide adequate cover, forage, and habitat for the various species of wildlife associated with the area. Along with sustaining viable populations of wildlife, the forested areas will be maintained in a manner that continues the aesthetic quality and environmental integrity of the property. Improving the health of these forests will better promote vigorous vegetation, provide wonderful wildlife viewing opportunities, create healthier watersheds, and will produce an enjoyable place for public recreation.

Awareness and Education: The Division of Parks and Recreation will make an effort to raise public awareness of all projects in the park. This will be accomplished through informational signage and naturalist programs.

VI. MONITORING

Monitoring and evaluation of activities is a continuous process.

The Division of Forestry state forest manager responsible for overseeing resource management programs on state parks will have his annual performance review tied in part to his individual effectiveness in implementing this plan. In addition, all Division of Forestry employees will be evaluated on their appropriate portions of the plan.

District and Columbus staff of the Division of Forestry will review inventory reports and marking reports to ensure policies are followed. To ensure objectives are achieved and consistency is maintained, district staff will conduct final timber sale inspections.

Finally, chiefs from the Division of Parks and Recreation and the Division of Forestry shall meet at least annually to review the program, this plan, and any necessary modifications.

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Exhibit 1 – Description of Zones for Ohio State Parks

Zone A - Natural and Cultural Protection Focus Zone – Areas will not be considered for commercial timber harvest due to the sensitivity of the environmental resource. Examples are buffers around large lakes, wetlands, or areas with large numbers of listed species. Individual trees may need to be removed due for safety concerns or infrastructure improvements. Logs produced from these operations could be sold at the discretion of the park manager in cases of high value, but in most situations will decompose near where they originate or be utilized for firewood.

Zone B – Visual Focus Zone - These areas are adjacent to high use recreation areas, park buildings and infrastructure, public roads, and camping facilities. Timber management will not be considered a goal here except where access may be needed or where a timber harvest may improve public safety, enhance viewing opportunities, allow for infrastructure improvements, or to salvage timber damaged through insects, disease, or weather events. Any harvests in these areas will be primarily for state park user safety

Zone C – Late Successional Forest Habitat Focus Zone - These areas will be considered for timber production with the goal of creating and maintaining an uneven-aged stand. Single-tree selection will be the dominant silvicultural method to obtain this condition, but small group selections may also be used. Exceptions will be allowed in cases of enhancing habitat for rare and threatened species, vista openings, and stands of planted conifers. The overarching goal for this zone shall be to maintain a well-stocked stand of healthy trees and prevent the loss of a valuable timber resource. There may be trails within these areas; operations around them will be managed on a case-by-case basis.

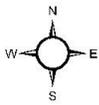
Zone D – Early Successional Forest Habitat Focus Zone - These areas contain no trails or public roads. If increasing biodiversity within a state park is a goal, then harvests may be done to create early successional habitat, regenerate shade intolerant tree species, and create improved viewing opportunities. Appropriate silvicultural systems may be single-tree selection, group selection/openings (up to 2.5 acres), deferment harvests, and shelterwoods.

Exhibit 2 – Zone acres for Forked Run State Park

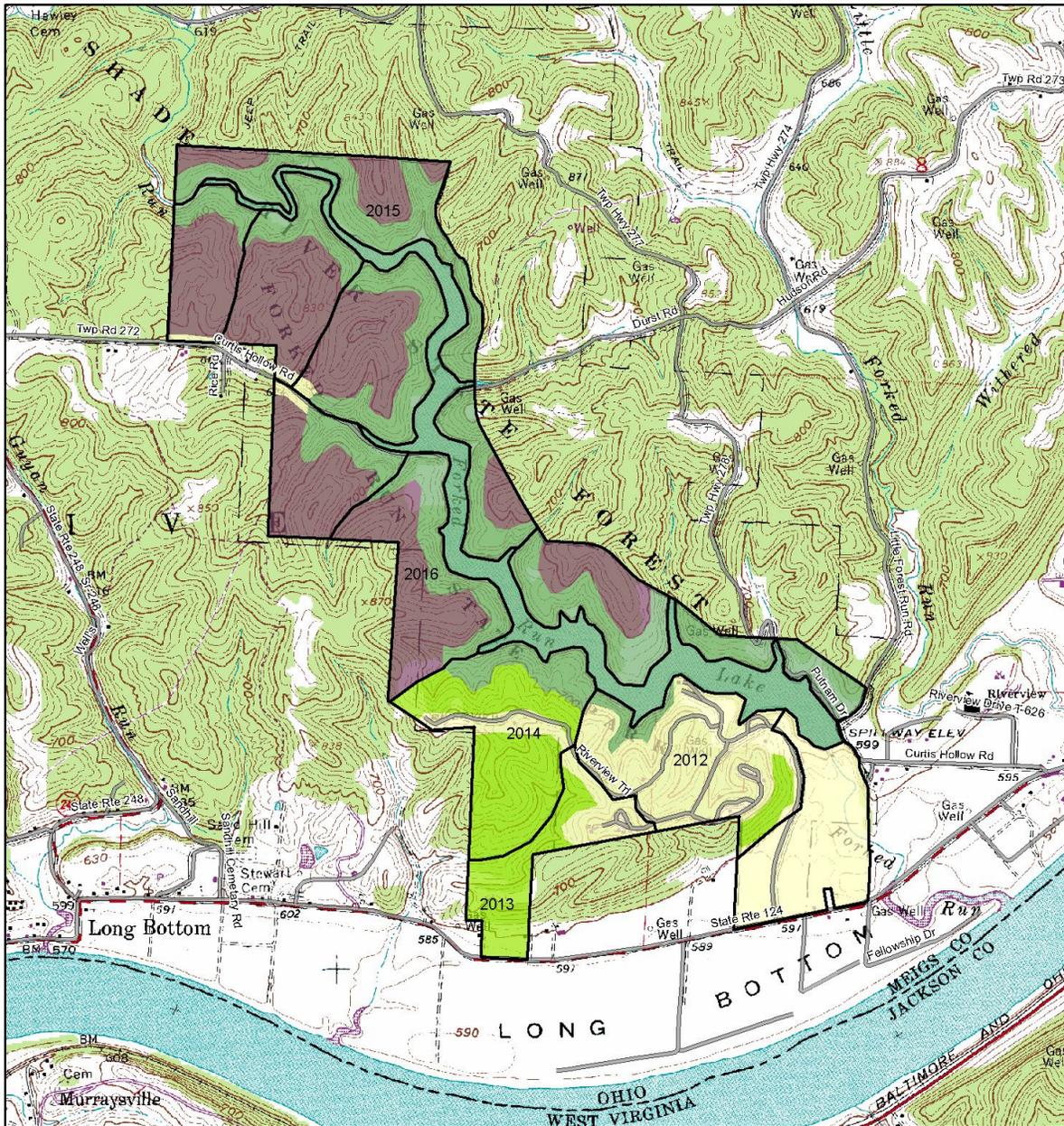
Zone	Acres
A	385
B	199
C	115
D	266
Total	965

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Exhibit 3 – Zone Map for Forked Run State Park (not to scale)



Forked Run State Park Forest Management Zoning and Stand Cruise Cycle



Legend

- State_Park_Stands
 - Roads
- | Zone | |
|------|------------------------------------------------------------------------------------------------------------------------------------------------|
| A | |
| B | |
| C | |
| D | |

