REPORT OF
THE DEPARTMENT OF CONSERVATION AND RECREATION

A FEASIBILITY STUDY FOR THE ESTABLISHMENT OF A STATE PARK ON THE RAPPAHANNOCK RIVER

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

HOUSE DOCUMENT NO. 27

COMMONWEALTH OF VIRGINIA
RICHMOND
1999

James S. Gilmore, III
Governor

John Paul Woodley, Jr.
Secretary of Natural Resources

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Director

COMMONWEALTH of VIRGINIA

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January 4, 1999

The Honorable James S. Gilmore, III, Governor
Commonwealth of Virginia
Capital Square
Richmond, Virginia 23219

Members of the Virginia General Assembly
Commonwealth of Virginia
General Assembly Building, Capital Square
Richmond, Virginia 23219

Dear Governor Gilmore and Members of the 1999 General Assembly:

One of America's greatest conservationists, President Theodore Roosevelt in his autobiography, noted that in 1907 "I called attention to the value of our streams as great national resources, and to the need for a progressive plan for their development and control." Those words are equally true today regarding one of America's great natural historic treasures, the Rappahannock River.

This report, as directed by the 1998 Virginia General Assembly through House Joint Resolution No. 193, requested the Department of Conservation and Recreation (DCR) to study the "feasibility of creating a state park along the banks of the Rappahannock from its confluence with the Hazel River above Remington to the City of Fredericksburg." The study could not have been possible without the expansive public input received from our citizens, including riparian landowners, local governments, state agencies, conservation and historic organizations, the Friends of the Rappahannock, the Virginia Canal and Navigation Society, and by the Boy Scout Troop 1378, which with public officials, canoed the river from Remington to Fredericksburg.

I would be remiss if I did not also thank DCR's Division of Planning and Recreation Resources for their professionalism and long hours expended in the preparation of this report.

The Rappahannock River, with its natural beauty and rich history is a resource owned by every citizen in the Commonwealth. With tremendous population growth on both sides of the river and growing water quality concerns, the challenge is to insure that the rights of present competing interests are appreciated while protecting the River's wild and scenic qualities for use and enjoyment by those in the next millennium and beyond. It is hoped that this report is a guide for that vision.

Respectfully submitted,

David G. Brickley

PREFACE

The Rappahannock River State Park Feasibility Study was directed by the 1998 General Assembly through House Joint Resolution 193, which requested the Department of Conservation and Recreation (DCR) to ... "study the feasibility of creating a state park along the banks of the Rappahannock from its confluence with the Hazel River above Remington to the City of Fredericksburg."

The Department of Conservation and Recreation wishes to thank the governing officials from Culpeper, Fauquier, Stafford, and Spotsylvania Counties and the City of Fredericksburg, who provided much of the available information. At the request of the DCR Director, they also recommended representatives for an Advisory Committee, who helped the staff to define the relevant issues and concerns related to the resource. The Departments of Transportation, Game and Inland Fisheries, and Historic Resources provided valuable information about the fishery, wildlife, and historic resources of the corridor. DCR's Divisions of Natural Heritage and Soil and Water Conservation and the Public Communications Office assisted by identifying the heritage resources found in the corridor, providing technical information, and creating the maps used in the study process. There were more than two hundred area residents who attended one or more of three public meetings. In addition, dozens of citizens wrote, phoned, or e-mailed DCR to provide information and express their views.

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EXECUTIVE SUMMARY

The 1998 General Assembly requested that the Department of Conservation and Recreation (DCR) conduct a study to determine the feasibility of establishing a state park on the banks of the Rappahannock River between the confluence of the Hazel River and the City of Fredericksburg. The department has spent almost six months gathering technical information about the river corridor and the historic, cultural, and recreational significance of the study area. DCR formed and met with an Advisory Committee; members were recommended by the local governments, state agencies, and interested groups and organizations. The DCR staff also made presentations to the local governments within the corridor and held three public meetings to obtain the input of local citizens.

While the establishment of a state park along the banks of the Rappahannock River within the study area is feasible, numerous concerns have been raised which cause the proposal to establish such a park to be controversial. A large number of private landowners along the river were opposed to such a state park.

Therefore, while feasible, it is not realistic to establish a state park along the banks of the Rappahannock River from its confluence with the Hazel River to Fredericksburg. This concept would be expensive to implement from both an acquisition and a management perspective. The idea was opposed by the majority of the riparian land owners attending the public meetings. While the concept of a state park consisting of just several nodes at key locations along the river was somewhat better received, it too carried the perception of attracting higher use and causing a degradation of the resources and a loss of the remote experience.

Thus, the Department of Conservation and Recreation (DCR) recommends the establishment of a Historic Rappahannock River Conservation Corridor, or other appropriate designation be considered as a preferred option. The purpose of the special designation would be to enhance the protection of the resource while managing recreational use in line with the remote experience. Implementation of this option would require additional study by all stakeholders to determine what specifically should be done and how it should be done. Critical lands should be identified for resource protection and low-key recreational management. In effect, any lands acquired by DCR, or others, would be managed along the lines of a conservation or natural area in harmony with the theme of protecting the significant natural and historic resources and the remote recreational experience.

Specifically, the Department of Conservation and Recreation has reached the following conclusions:

1. It is important that management of the existing public access sites continue to be monitored and enhanced. There is a strong perception by those who lived near some of the public access sites that these are often littered with trash and serve as places for drinking and loitering. Many felt that these public access points require more frequent law enforcement.

2. An additional study should be made of the capacity of the river to handle increased use and how existing use can be better managed to reduce conflicts. No additional public access, beyond what is currently planned, should be developed until these issues are further evaluated. One of the key reasons for landowner/user conflicts is the lack of appropriate public access to the river. Once a person puts in at Kellys Ford public access site, he/she must go all the way to Motts Run to take out. This is normally a two-day trip. Thus, the canoeist must either trespass on private property to shorten his trip or spend the night camping on the river. This too often occurs on private lands. While increasing public access to the river could relieve this problem, it could also cause use to increase beyond acceptable levels, thus destroying the very nature of the remote experience. Therefore, the additional study is needed.

3. Protection is needed for the many cultural resources in the river corridor. Educational/interpretive programming should be developed around them. The outstanding resources range from early Native American sites to Civil War battlefields and from historic locks and canals to one of the earliest North American industrial sites.

4. While feasible, it is not realistic to establish a state park that would extend along the banks of the Rappahannock from its confluence with the Hazel River to Fredericksburg. This concept would be expensive to implement from both an acquisition and management perspective. The idea was opposed by the majority of the riparian land owners attending the public meetings. While the concept of a state park consisting of just several nodes at key locations along the river, option B, was somewhat better received, it too carried a perception of attracting higher use and causing a degradation of the resource and a loss of the remote experience.

Thus, the department recommends that option C, a Historic Rappahannock River Conservation Corridor, or other appropriate designation, be considered as the preferred option. The purpose would be to enhance the protection of the resource while managing the recreational use in line with the remote experience. Implementation of this option would require additional study by all stakeholders to determine what specifically should be done and how it should be done. Critical lands should be identified for resource protection and low-key recreational management. In effect, any lands acquired by DCR would be managed along the lines of a conservation or natural area in harmony with protecting the resource and the remote experience. Facility development would be limited to that necessary to provide resource protection, interpretive programming, and to manage recreational use.

5. Should a major development occur on the Rappahannock River in the City of Fredericksburg, or elsewhere within the study area, the riparian lands should be protected with a substantial buffer of the critical waterfront property. Historic interpretation of the corridor, natural resource protection, and tourism should be important aspects of any future strategy to provide visitor information services.

During the study process, the department staff learned of a local business' conceptual plan for a major development proposed in an area near I-95 within the City of

Fredericksburg and southern Stafford County. The proposed site includes some riverfront lands in the lower three miles of the study corridor. One component of this planned development would be a museum/visitor center complex. If implemented, this complex would involve major cooperative efforts among local governments, a number of state programs, and private enterprise. The visitor center is envisioned as an important focal point for the entire region and should include historic and environmental exhibits, as well as site related interpretive programs. An element of this complex could include a series of trails or walkways in the riparian areas near the river, providing access to the shoreline and the historic canals, lock structures, and other resources found along the river bank. As this concept is refined, the Department of Conservation and Recreation and other partners could assist in the identification and management of these resources within the framework of a river corridor protection plan.

6. A conservation and management presence could be established at the northern end of the study corridor by combining a Civil War battlefield owned by the Association for Preservation of Civil War Sites with additional riparian lands, should they become available, which would link the battlefield to the river. This area could serve as an educational and interpretive facility for the northern end of the conservation corridor and could be administered by DCR as part of a river management plan.

7. The key historical site of Spotswood's Tubal Furnace should be protected, possibly by being brought into the state system. This is an unprotected site, representing the earliest part of the Industrial Revolution in America, which has been seriously degraded over the years. It is vitally important that this area receive additional protection. If acquired, the site should be stabilized, and interpretive and educational programming provided.

8. While the entire river is not a part of this specific study, interest was expressed during the report's preparation in looking at the whole river as a resource worthy of special protection and management. Consideration should be given to amending the American Heritage River designation proposal to include the lower portion of the river down to the Chesapeake Bay. In addition, thought should be given to the development of a Rappahannock River Water Trail that would traverse the length of the river. If implemented, this could have a positive impact on tourism throughout the region.

I. INTRODUCTION

A. Reason for Study

The 1998 Session of the General Assembly of Virginia passed House Joint Resolution (HJR) 193, requesting the Department of Conservation and Recreation to "...study the feasibility of creating a state park along the banks of the Rappahannock from its confluence with the Hazel River above Remington to the City of Fredericksburg." The resolution further directed that the study consider tourism of the region, as well as the unique cultural, historic, natural, recreational and wildlife resources of the corridor. (Appendix A)

The Virginia State Park system opened to the public with six state parks in June 1936. As Virginia's recreational and open space needs have increased, the system has expanded and developed. With additional lands acquired through the 1992 Park and Recreational Facilities Bond Referendum, donations, and grants, the Department of Conservation and Recreation (DCR) now manages 29 state parks, 6 historic sites, and 30 natural areas. The purpose of the Virginia State Park system is to allow the citizens of the Commonwealth to enjoy significant natural and cultural resources, which is accomplished through active cultural and natural resource management and by providing recreational facilities and programs that complement these resources. (Appendix D) The 1996 *Virginia Outdoors Plan*, under recommendations for acquisition of state park lands, lists as its first priority a state park on the nontidal portion of the Rappahannock River.

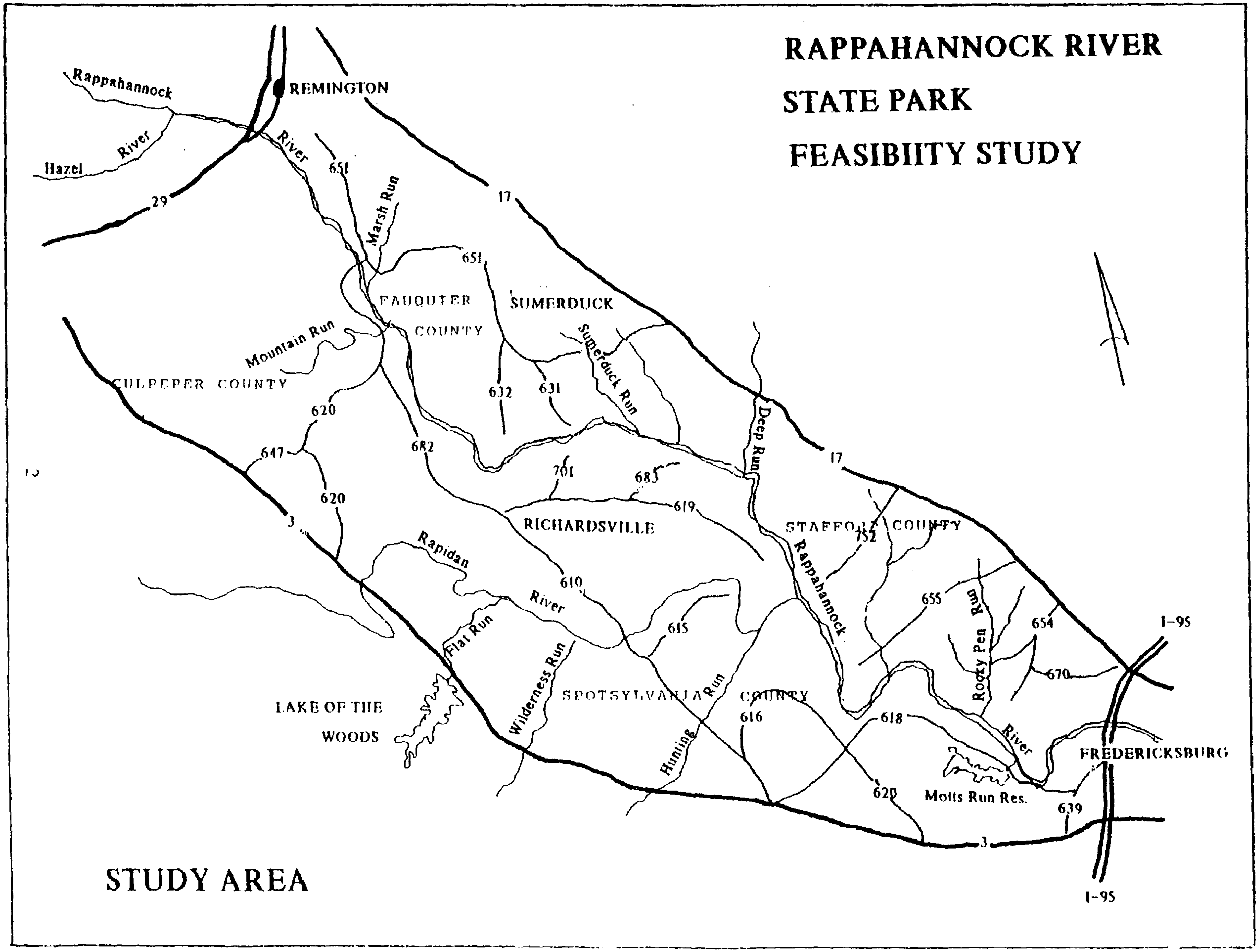
B. Study Corridor

The study corridor detailed in HJR 193 is specific in that it describes the reach of the Rappahannock River between the confluence with the Hazel River and the City of Fredericksburg. The Study Area Map on page 2 depicts the river corridor and shows the relationship of the surrounding communities to the river. Parts of Culpeper, Fauquier, Stafford, and Spotsylvania Counties and the City of Fredericksburg are within the study corridor.

C. Study Process

The study process initiated by the Department of Conservation and Recreation (DCR) identified the existing conditions through a resource inventory from the *Virginia Outdoors Plan*, available maps, and reports in the DCR files. A study team of DCR staff was assembled; affected localities were notified of the study and asked to identify people to serve on an Advisory Committee to aid DCR with the study. The Department of Historic Resources, the Department of Game and Inland Fisheries, and the affected Planning Districts Commissions, as well as a number of interested groups and organizations, were also asked to recommend representatives to the Advisory Committee.

Department staff held a number of meetings with the Advisory Committee and received the membership's input on the resources, as well as several reports and technical studies that addressed significant aspects of the corridor. The Advisory Committee also served a key role in identifying issues that were important to the communities and organizations within the study area. They made recommendations about the public participation process and provided input on a range of options for the DCR Director to consider in preparation of this report. To ensure ample opportunity for public input, DCR also held three public information meetings in Fredericksburg, Remington, and Richardsville.


RAPPAHANNOCK RIVER
STATE PARK
FEASIBIITY STUDY
STUDY AREA
Rappahannock
REMINGTON
Hazel
River
River
29
651
Marsh Run
17
651
FAUQUIER
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Mountain Run
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II. THE REGION

A. Population Growth

The Central Rappahannock River Basin encompasses the Counties of Culpeper, Fauquier, Stafford, and Spotsylvania, plus the City of Fredericksburg. Located in the Central Piedmont, the study area contains one of the four fastest growing populations centers in the Commonwealth. Stafford and Spotsylvania Counties have already experienced phenomenal growth during the past ten years. The projected population in the localities within the study area is expected to increase by 8.5% by the year 2000, and could reach over 418,000 by the year 2020.

Table 1 Recent Population Growth (Based on Local Totals)

Jurisdictions	1960 Population	1970 Population	1980 Population
Fredericksburg	13,639	14,450	15,322
Culpeper Co.	15,088	18,218	22,620
Fauquier Co.	24,066	26,375	35,889
Stafford Co.	16,876	24,587	40,470
Spotsylvania Co.	13,819	16,424	34,435
Area Totals	**83,488**	**100,054**	**148,736**

Table 2 Projected Population Growth (Based on current estimates)

Jurisdiction	1997 population	2000 population	2010 population	2020 population
Fredericksburg	19,027	22,200	24,700	27,200
Culpeper Co.	32,000	32,900	37,500	42,100
Fauquier Co.	51,900	54,000	58,800	63,600
Stafford Co.	88,300	98,000	124,000	150,000
Spotsylvania Co.	77,700	86,500	111,000	135,500
Area Totals	**270,500**	**293,600**	**356,000**	**418,400**

Note: Some local projections depict a higher growth rate, especially in the eastern portion of the study area.

Source of Tables 1 and 2: Virginia Employment Commission

The major population centers of Northern Virginia, Richmond, and Charlottesville are all within a fifty-mile radius of the study area. Based on current Virginia Employment Commission estimates, the combined populations of these Metropolitan Statistical Areas exceeded three million people in 1997 and continues to grow at a record setting pace.

B. Major Transportation Corridors

The Central Rappahannock River Basin is bracketed on all sides by major highway systems. Route 29 and Interstate 95 delineate the upper and lower reaches of the study area. Routes 3 and 17 roughly parallel the corridor and are within 2 to 15 miles of the river. Although completely surrounded by major roads, the only highways crossing the stream are Route 29, I-95, and Route 620 (Kelly's Ford Bridge). Other secondary roads parallel or approach the river corridor, but do not encroach into the immediate area of the river.

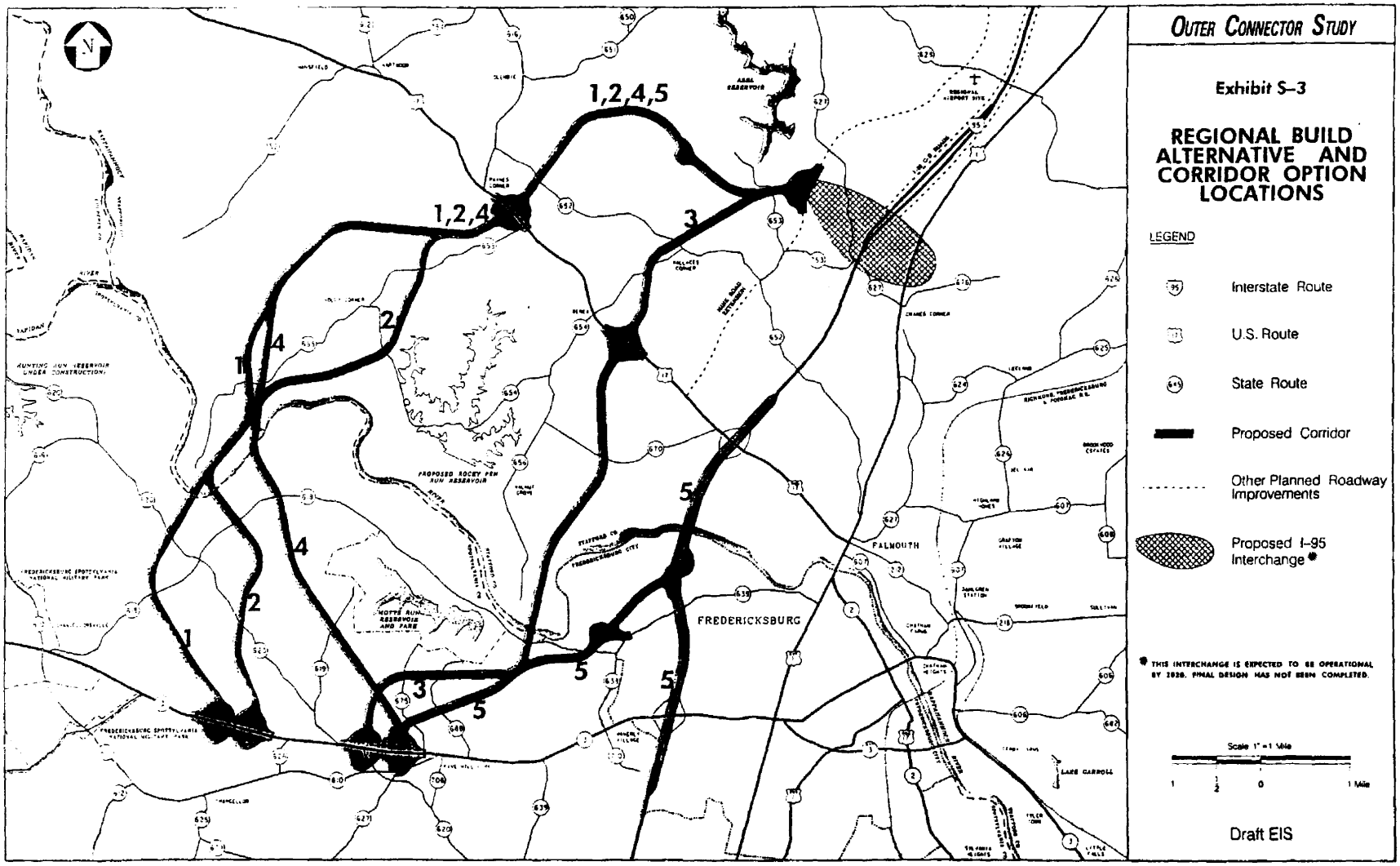
The Virginia Department of Transportation (VDOT) is preparing environmental documents for a major collector road, the Outer Connector, which will provide an additional north-south corridor near Fredericksburg. There is considerable controversy over the selection of the final road corridor. The Commonwealth Transportation Board has not made a final route selection, but five alternatives are being considered which would cross the Rappahannock River west of I-95. The Kelly's Ford Bridge was closed to traffic in 1997 due to structural problems; however, it is projected to be rebuilt on the same general location in 2000. A segment of Route 3 near Culpeper was opened to four-lane traffic in November 1998. Two projects totaling about 13.5 km (8.4 miles) are planned, which will complete the upgrade of Route 3 between Fredericksburg and Culpeper to 4-lanes by around 2005. VDOT also has a number of projects in their Six Year Plan for improving area secondary roads; however, the proposed Outer Connecter is the only new river crossing planned within the study corridor. (See map on page 5)

C. Development in the Area

The City of Fredericksburg has developed specific policies related to the city-owned riparian lands along the river. The city's policy is to keep the watershed property open and available for recreational uses. The city has reserved the rights to limit access in certain areas when it is determined to be necessary to protect the natural resources of the river corridor. Generally, the lands behind the watershed property are zoned for agricultural uses or low density residential development.

The City of Fredericksburg has rezoned about 544 acres west of the I-95 corridor between Fall Hill Avenue (Route 639) and the river to permit a major development with residential and mixed commercial use including a corporate office park, hotels, museum, and a conference center. This largely undeveloped tract will be adjacent to city owned lands. If this development occurs, the riparian areas that are not owned by the city are anticipated to be set aside for open space protection and recreational use.

Stafford County has experienced phenomenal growth during the decade of the nineties. The Route 17 corridor, west of I-95, is already heavily developed to commercial, industrial, and residential uses (for about three miles west of I-95). Further west, the existing land use


1,2,4,5
1,2,4
3
2
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4
2
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3
5
FREDERICKSBURG
FALMOUTH
PROPOSED ROCKY PEN RUN RESERVOIR
HUNTING RUN RESERVOIR UNDER CONSTRUCTION
OUTER CONNECTOR STUDY
Exhibit S–3
REGIONAL BUILD ALTERNATIVE AND CORRIDOR OPTION LOCATIONS
LEGEND
Interstate Route
U.S. Route
State Route
Proposed Corridor
Other Planned Roadway Improvements
Proposed I-95 Interchange*
* THIS INTERCHANGE IS EXPECTED TO BE OPERATIONAL BY 2020. FINAL DESIGN HAS NOT BEEN COMPLETED.
Scale 1" = 1 Mile
1 2 0 1 Mile
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transitions to low density residential and agricultural uses. South of the Route 17 corridor, some residential subdivisions dot the landscape. However, it is the county's goal to limit development near the river to the extent possible.

A major mixed use development is proposed near the river, upstream of the I-95 corridor. This 850 acre project would contain golf courses, hotels, residential, mixed commercial use, and offices just north of the city watershed property (See Appendix B). The proposed Outer Connector, which will connect Routes 3 and 17 to I-95, could impact developments in the lower end of the study area. Stafford County also has plans to build a water supply reservoir on Rocky Pen Run, which will have the capability of withdrawing water from the river to augment the available storage provided in the reservoir.

Spotsylvania County is one of the fastest growing counties in the Commonwealth. Much of the northern portion of the county has been developed to mixed commercial, industrial, and residential uses. The Route 3 corridor west of I-95 has already been intensively developed. The planned Outer Connector will originate on Route 3 between Five Mile Fork and the Chancellorsville Battlefield National Historic Park, and depending on the selected alignment, cross the river in the lower eight miles of the study area. The area north of Route 3 is zoned for large lot subdivisions and is developing at a steady rate. Within the study area, the western portion of the county still contains large parcels of mixed farm land and forests. There are also several Civil War battlefields owned by the National Park Service. These battlefields help maintain the rural character of area between Route 3 and the river.

Fauquier County, within the study area, is largely a rural area with an estimated 65% of the land in forests, and the balance devoted to cattle and horse operations. The village of Sumerduck is projected to have some limited commercial and low density residential development. Most of the county's growth pressure is outside the study area, and the county's objectives are to preserve the existing rural character. They have developed zoning regulations that are designed to preserve the open spaces and keep agricultural practices a viable component of the local economy. Residential development is occurring north of the Town of Remington.

The Town of Remington was established in 1890. Previously, the settlement was called Rappahannock Station, and it was the site of a significant Civil War battle. The town strives to retain its rural and historic character. Little new development is planned within the town limits.

Culpeper County's Comprehensive Plan utilizes the historical communities and economic centers of the county, where feasible, and consolidates growth in those areas. This practice helps protect the major agricultural and forestal lands, as well as environmentally sensitive areas. The existing village center locations are also the location of projected commercial and low density residential developments. A major goal of the County Comprehensive Plan is to protect the existing agricultural and forestal areas near the Rappahannock River as a component of the rural character of the county. All the land near the river is zoned for agricultural use, and much of that has been incorporated into agricultural and forestal districts.

Within the study area, Brandy Station, Elkwood, Lignum, Richardsville, and Stevensburg are designated village centers with limited growth projected. Industrial development is planned near the Culpeper County Airport and along the Route 29 corridor to the south.

D. Tourism

According to the Virginia Tourism Corporation, in 1997 travel and tourism was an 11.1 billion dollar economic asset to the Virginia economy. Domestic travelers accounted for over 19% of all retail sales, and 176,210 jobs were directly supported by travel spending. Within the study area, tourism is a critical element of the regional economy. The five localities that comprise the study area benefitted from approximately $368 million in travel-related spending. Also, in 1997, more than 5,300 jobs within the five localities were travel-related.

The Central Rappahannock River Basin contains one of the state's richest assemblages of significant historic, cultural, and recreational resources. Fredericksburg has been described as one of America's most historic cities. At least six of the major battles, plus a number of other actions of the Civil War, occurred within the study area. The Rappahannock River Navigation System and the mills and mines that once harnessed the river's power are significant historic attractions. Spotswood's Tubal Furnace, circa 1719, has been considered to be the beginning of the Industrial Revolution in North America. The cultural, scenic, and historic attractions of Culpeper and Fauquier Counties are also important tourist attractions. The Rappahannock River is a significant tourism destination for those who want to canoe, fish, and camp; two commercial outfitters and a private campground are available to help provide visitors with a memorable experience. In 1985, the river was designated as a Virginia Scenic River by the General Assembly.

III. SIGNIFICANCE OF RESOURCES

A. Natural Resources

The Rappahannock River flows 184 miles from the Rappahannock County mountain spring that is its origin to the waters of the Chesapeake Bay. It drains a watershed of 2,848 square miles. The river is crossed by few roads, lacks significant shoreline development, and endures only a few impoundments of its free flowing tributaries. Its reputation as a relatively unspoiled river is well deserved.

Land

The study corridor is located in the Piedmont Plateau physiographic province. The Piedmont consists of rolling terrain that contains narrow to moderately broad ridges with sloping to moderately steep sides. Drainages are moderately well entrenched and have a dendritic pattern. The river can be broken into 3 sections for description purposes. The river west of Kellys Ford toward the confluence of the Hazel River and beyond could be described as narrow, slightly entrenched and bounded by agricultural land, creating a pastoral landscape. At Kellys Ford, the river crosses the first of a series of erosion resistant rock formations, and its character subsequently changes from a slow moving stream with a mud bottom to an entrenched river with pools, rapids, and riffles.

The land between Kellys Ford and the confluence of the Rapidan and Rappahannock Rivers becomes increasingly rugged. The pastoral farmlands give way to steep, heavily wooded hillsides. The river courses over a bed of sand, gravel, and boulders. Rapids and islands become more frequent. The riverscape is dominated by rock outcroppings and steep valley walls that gradually level off into the broad flat upland surface.

From the confluence down toward Fredericksburg, the river is similar to the middle reaches, but larger as a result of the added flow from the Rapidan River. The river runs through a heavily wooded valley -- its long deep pools occasionally interrupted by erosion resistant rock ledges that traverse the riverbed.

Vegetation

Eastern Virginia is located in the Southeastern Mixed Forest Province, which occurs on the Coastal Plain and Piedmont where there is moderate relief and a relatively uniform climate with mild winters and hot summers. The study corridor is located in a sub-category of that zone, the oak-pine forest. This forest is dominated by black oak and various pines and is transitional between the more western oak-chestnut forest and the eastern Coastal Plain pine forest. The forest lands in the study area may contain species common to other forest types such as white oak, red oak, chestnut oak, and hickory. Other species found along the river include sycamore, yellow poplar, maple, beech, hackberry, ash, black walnut, and black locust, as well as loblolly, shortleaf, and Virginia pine. Most of the area's forests were cleared for various purposes throughout history so most of today's forest is second and third growth, less that 100 years old.

Brush/old field communities are typically formed by the clearing of forested areas. Brush areas are dense patches containing shrubs, such as sweet gum and sumac, and vines, such as blackberry, Japanese honeysuckle, and greenbrier. Old field plant communities include primarily herbaceous species such as grasses and goldenrod, as well as scattered shrubs. Brush/old field communities provide habitat for wildlife species adapted to early successional vegetation and also provide edge environments, which have more diversity and typically contain greater numbers of wildlife species. Agricultural land provides another form of cleared land.

Wildlife

A wide range of wildlife species are present in these diverse communities, including whitetail deer, wild turkey, gray squirrel, rabbits, beavers, grouse, quail, foxes, raccoons, opossums, and others. Migratory birds that also use the river corridor include a variety of waterfowl such as Canada Geese, Blue Herons, and several duck species, as well as woodcock and countless songbirds. Also, there is a variety of raptors such as eagles, ospreys, hawks, and owls.

The river upstream from the fall line remains a high-quality warm-water fishery. At least 47 fish species have been reported within the Rappahannock near the study corridor. The most common sportfish include smallmouth bass, largemouth bass, rock bass, and bluegill. Some of the species found in the tributaries of the Rappahannock include blacknose dace, bluegill, rosysided dace, and creek chub. Due to the steep elevation of Horsepen Run and Rocky Pen Run as they flow toward the Rappahannock River, these streams contain fish species typical of mountainous streams, such as margined madtom and mottled sculpin. Anadromous fish are not present in the Rappahannock River or tributary streams above Embrey Dam because the dam's fish ladder does not work. It is possible anadromous fish could return to the upper Rappahannock if the Embrey Dam is removed as planned.

As recently as 1993, the U. S. Fish and Wildlife Service has listed the dwarf wedge mussel, found in Spotsylvania County, as an endangered species. Land owned by the City of Fredericksburg provides habitat for two species on the state endangered species list. These are the eastern tiger salamander, found in Spotsylvania and Stafford Counties, and the loggerhead shrike, found in Culpeper and Orange Counties.

Water Quality

For many years, the Rappahannock was considered to be one of the most pristine rivers in the Chesapeake Bay system. Current *status* of a few water quality indicators; e.g., total nitrogen, algal levels and phytoplankton community health, remains "good" in the tidal portion of the Rappahannock (the estuary). However, certain others are currently "poor"; i.e., water clarity and total suspended solids in the middle estuary, and dissolved oxygen in the lower estuary. Of Virginia's Chesapeake Bay tributaries, the Rappahannock estuary currently shows the most degraded water quality conditions.

These degradations have occurred despite implementation of point and nonpoint source nutrient and sediment controls in the basin between 1985 and 1996. The Chesapeake Bay

Program Watershed model estimated that there have been significant reductions in nitrogen, phosphorus and sediment loads; however, this is based on an assumption of normal rainfall. The model's estimated reductions have resulted from the implementation of farming best management practices, the implementation of local nonpoint source programs, the installation of nutrient removal at wastewater treatment plants, and the ban of phosphate.

One factor that has brought about degradations in water quality in recent years is above-normal rainfall, which led to increases in actual nutrient and sediment loads from nonpoint sources. The disparity between the management actions within the basin and the actual conditions in the river is due in part to the higher nonpoint source loads that occurred as a result of strong storm events and high rainfall years, particularly in the upper basin since 1993.

Trends for water quality in the river has also been mixed, but certain significant degradations have occurred. The 1998 303(d) report by the Department of Environmental Quality increased the number of impaired river segments in the basin from six in 1996 (total of 36.0 miles) to 14 (total of 60.29 miles and 0.06 square miles of estuary). Impaired segments are found in all three regions of the river basin. Seven segments are in the Upper region (in which Fauquier and Culpeper Counties are located) and three in the Central region (in which the City of Fredericksburg and Spotsylvania and Stafford Counties are located). Impaired segments are designated as a result of fecal coliform bacteria violations, due to multiple causes, and due to pH violations. The exact sources of these impairments are unknown; however the location of most of them suggests that the pollutants are nonpoint in origin.

The 1998 Water Quality Assessment (305(b)) report identifies these impaired waters by the uses they fail to support, or only partially support. For aquatic life, 16.8 stream or river miles in the basin are designated as impaired. For swimming, 50.9 stream or river miles are designated as impaired. For shellfishing, 11.6 square miles of the estuary are designated as impaired and condemned from shellfishing activity.

The total load of nutrients and sediments that enter the Rappahannock River and its tributaries comes from either point sources (discharges from municipal wastewater treatment plants) or nonpoint sources. The two major categories of nonpoint sources are runoff from agricultural land and runoff from urban land. Nonpoint sources have been identified as the greatest contributor of nutrients and sediments to the river. Nutrient and sediment loads from agricultural lands come from erosion of soil particles, surface runoff carrying dissolved nutrients from fertilizer or animal waste, and leeching of dissolved nutrients that are transported to rivers through groundwater. Urban nonpoint source loads include surface water runoff and groundwater transport of nutrients from developed lands. The largest nutrient component from this source is fertilizer application to residential and commercial lawns.

As of 1996, agricultural land uses covered approximately 38% of the Rappahannock basin, with the vast majority of farming acreage found in the Upper and Lower regions. These land uses are estimated to contribute approximately 79% of the annual nitrogen load to the Rappahannock estuary, of which 49% is from the Upper region, 5% is from the Central region, and 46% is from the Lower region. These land uses contribute approximately 81% of the annual phosphorous load, of which 62% is contributed by the Upper region, 4% from the Central region,

and 34% from the Lower region. These land uses contribute approximately 93% of the annual sediment load, of which 62% is contributed by the Upper region, 4% from the Central region, and 34% from the Lower region. The agricultural land uses contributing to nutrient and sediment loading have been identified as cropland, hayland, pasture land, and animal waste.

As of 1996, urban land uses covered approximately 7% of the Rappahannock Basin. These land uses are estimated to contribute approximately 10% of the annual nitrogen load to the Rappahannock estuary, of which 34% is contributed by the Upper region, 27% is contributed by the Central region, and 39% is contributed by the Lower region. These land uses contribute approximately 9% of the annual phosphorous load, of which 56% is contributed by the Upper region, 18% is contributed by the Central region, and 26% is contributed by the Lower region These land uses contribute approximately 7% of the annual sediment load, of which 74% is contributed by the Upper region, 6% is contributed by the Central region, and 20% is contributed by the Lower region.

The Rappahannock River Basin is experiencing one of the fastest growths in population in Virginia. There are 17 municipal wastewater treatment facilities located in the basin; 7 are in the Upper region and 5 in the Central region. The largest population densities are located around the City of Fredericksburg and within Spotsylvania County. In this growing area, there are 4 major treatment facilities within a 5-mile stretch of river. As the population of the basin continues to increase, the volume of discharge from municipal wastewater treatment facilities will increase respectively. Increasing flows from treatment facilities ultimately mean an increase in the annual loadings of phosphorus and nitrogen into the river system.

The Rappahannock River is also a public water supply. The current intake, which serves the City of Fredericksburg, is located at Embrey Dam, just below the I-95 crossing. Point source discharges (treatment facilities) into the river and designated tributaries are subject to strict water quality standards established to protect public health. The City of Fredericksburg and Spotsylvania County are undertaking a cooperative venture to build a water treatment plant near Motts Run on the Rappahannock River. The city would abandon its old treatment plant. The localities would rely on the river in times of moderate and high flow, and they would rely on storage in Motts Run and in Hunting Run Reservoirs during periods of low flow. Stafford County has been pursuing the building the Rocky Pen Run Reservoir just off the Rappahannock.

B. Cultural Resources

Human activity in the Rappahannock Valley has been long and diverse. Invariably, each generation has left a record of its passing, including fish traps and artifacts at Native American camp sites, sturdy canal locks, remnants of military entrenchments, overhead power lines, roadways, and built communities. Some of these elements have been intrusive, but over time, they have often become an integral part of the landscape and are of interest to those who seek to understand the river's history.

Native Americans

Archaeological evidence shows that the Rappahannock Basin was being heavily used by Native Americans by 7000 B.C. Tribal groups appear to have begun forming around 3000 B.C., and by 1000 B.C., agricultural efforts could have begun. Certainly by 1000 A.D., Native Americans in this area were growing corn, beans, and squash. The region's population prior to Captain John Smith's explorations in 1608 is unknown, but based on his observation of 33 villages on the river's north shore and 7 on the south shore, scholars have estimated that approximately 4,755 people inhabited the Northern Neck and Middle Peninsula when the English first sailed upriver. In fact, the word Rappahannock is derived from the term for these early inhabitants; it means "the people of the ebb and flow stream."

More is known of the Native Americans in the Tidewater because they had the most contact with Europeans. Through archival as well as archaeological evidence, however, scholars have determined that a people called the Manahoacks lived in the whitewater section of the river above the fall line. They were clearly of a different culture (Siouan) and spoke a different language than those Native Americans (Algonquian) below the fall line. At the time of European contact, they had established a hunting and fishing camp at the falls called Mahaskahod. Captain Smith's map, although based on hearsay, includes four Manahoack villages: Stegora and Shakahonea on the Rapidan, and Hassininga and Tawxuntania on the Rappahannock.

The tribes below the falls were hostile to the English, as well as the Manahoacks, and inadvertently served as a buffer between the two cultures. As a consequence, no known European contact occurred with the Manahoacks except for Smith's brief encounter in 1608. At that time, Captain John Smith worked his vessels upstream to the falls of the Rappahannock while exploring the Chesapeake Bay. English settlers did not move into the region until the 1670s or until after the Native American confederations under Powhatan and Opechancanough, who had blocked their way, were defeated. By then, the Manahoacks appear to have already been pushed away from their villages, possibly dispersed by hostile tribes from the north.

Early Industry

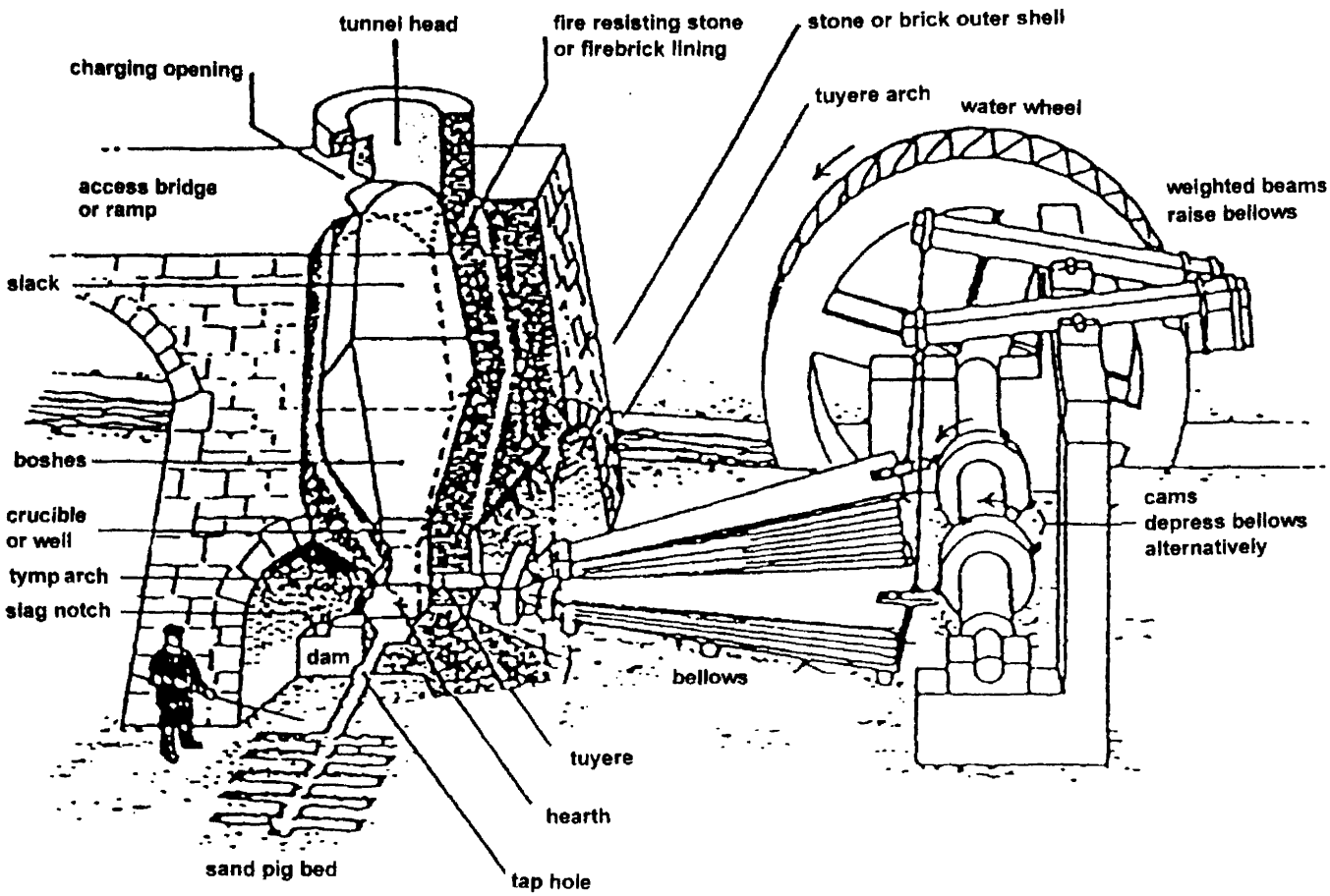
In 1676, Governor Berkeley awarded a large land grant on the Rappahannock riverfront to Lawrence Smith for helping suppress Bacon's Rebellion. Smith established a fort there, probably in the vicinity of the present day Fredericksburg Country Club, although its exact site

remains unknown. John Buckner and Thomas Royston also received a land grant in the 1670s, adjacent to but upstream of Smith's grant. A part of this tract was later leased to William Livingston. In 1728, the Virginia House of Burgesses ordered the town of Fredericksburg to be built on this leased land. Ostensibly, the colonial government wished to encourage a more rapid settlement of the Colony's interior. Their action relieved ex-Governor Spotswood from having to share his private wharves with the upcountry settlers who needed facilities to ship their tobacco. Seagoing vessels were coming up the Rappahannock as far as the new town in increasing numbers; here they exchanged their goods for the generous harvests and raw materials of this New World. By the time of the American Revolution, Fredericksburg and Falmouth had grown to prominence as a major trade center.

By the time Fredericksburg was established in 1728, Alexander Spotswood had already spent many years developing iron ore smelting operations in the Rappahannock Valley. Spotswood sought permission in 1710 from the London Board of Trade to establish an iron industry in Virginia, a request which was initially denied. In 1714, a group of nine German iron workers and their families arrived in Virginia. Spotswood relocated them upriver to an area that became known as Germanna. They were instructed to search for workable iron deposits while Spotswood awaited permission to produce iron. During this time, the German iron workers opened mines and prepared to build a furnace on Pipe Dam Run. When the Iron Mine Company was authorized in 1719, Spotswood's iron furnace, known by the name of Tubal Furnace, was able to become operational as early as 1720.

Spotswood's Tubal Furnace is historically significant for several reasons, including being the first commercially successful iron blast furnace in the New World. This enterprise reveals that slave labor was a critical component of early industries in Virginia. Spotswood's Germans departed as soon as any financial obligation to the former governor had been satisfied. While other skilled iron workers were probably recruited from Europe, the former governor turned increasingly to slave labor. Iron production is an extremely labor intensive industry requiring workers to mine ore, quarry limestone, cart raw materials to the furnace, and cart the iron to market. Fully half the work force engaged in charcoal production. This process entailed cutting trees, stacking the wood in piles 30-40 feet in diameter, smoldering it into nearly pure carbon, and then hauling the carbon to the furnace. By 1728, Spotswood had more than 160 workers engaged at Tubal Furnace. By 1739, the only hired employees at Tubal were a founder and a general overseer.

Spotswood also engaged in a plantation type of organization that typified the somewhat isolated production enterprises in the South. The features of this system included slave labor, a self-sufficient operation, and an export to an overseas market. This isolation, however, eventually led to the demise of the Chesapeake iron production. Timber supplies diminished, and the inadequate overland transportation system proved unable to compete with western furnaces able to obtain anthracite coal and linked to ports via canals and eventually rail.



Furnace Diagram -- Show in detail the construction of an early charcoal blast furnace. Note the size of the workman in relation to the superstructure.
Source: *Spotswood's Iron*

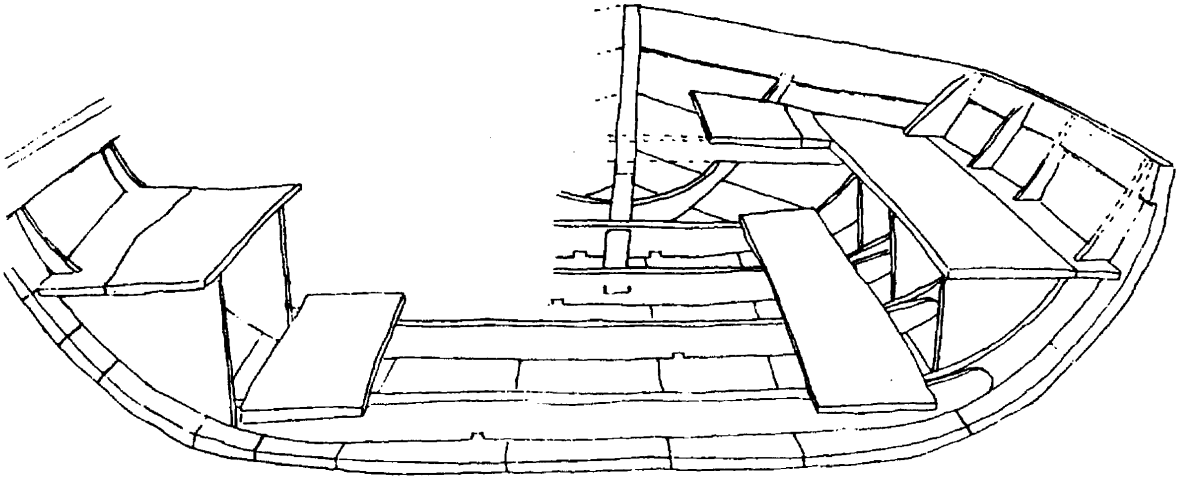
The iron industry in Spotsylvania County was important because the volume of iron production was instrumental in bringing Fredericksburg to prominence during the American Revolution. The availability of local industries became critical as the American Colonies sought to arm themselves against the British Empire. Around 1750, an iron works was established in Falmouth by James Hunter. During the American Revolution, Hunter's complex included mills for making iron, producing arms and tools, slitting and plating iron, and making wire. The diverse products of these industries included small arms, machinery for grinding and boring weapons, bridle bits, swords, stove pipes, camp kettles, travel forges, and anchors. In 1781, Governor Thomas Jefferson ordered the Fredericksburg militia to protect these important industries from the Loyalist cavalry.

However, instead of succumbing to an enemy raid, the Fredericksburg iron industries were severely hurt by a misguided change in government policy that made previously exempt

iron workers subject to service in the army. The industries were further crippled after independence had been achieved when the new federal government did not designate the town of Fredericksburg as a port-of-entry. Further, the available forests had become exhausted and production waned for lack of wood. The furnace that Alexander Spotswood had built in the Rappahannock Valley wilderness had ceased production by 1792. The remains of Spotswood's Tubal Furnace are also still evident on Pipe Dam Run. The site is listed on the Virginia Landmarks register as a significant archaeological resource. Additional efforts to preserve and interpret this historic site should be strongly considered.

Canals

Following independence from Britain, the new nation expended tremendous energy to develop a commercial infrastructure. The early to mid-nineteenth century was a period during which canals and later railroads began to crisscross the countryside. Area canal building activity occurred on the Rappahannock and Rapidan Rivers and on the Hazel River. Canal companies eventually built passages around the rivers' rapids to better move pig iron, timber, and bulk farm goods from the upper reaches of the watershed to the wharves at Fredericksburg where seagoing vessels docked. The primary vessel for moving goods and materials along the canal system was the Rappahannock River Batteau.



The Rappahannock River Batteau

Source: *The Rappahannock Scenic River Atlas*

The Rappahannock Company was organized in 1816 to construct a 50-mile river navigation system to serve the Rappahannock Valley, from the mouth of Carter's Run near Warrenton, down to the falls at Fredericksburg, and along the Rapidan. In 1829, after decades of trying to raise funds, the Rappahannock Company began work to make the river above Fredericksburg more conducive to moving bulk cargo. After a cornerstone had been set in place with suitable ceremony, laborers began to dig. The company's first attempt in the 1830s was a failure, resulting in the completion of only the first 10 miles above Fredericksburg and much of the long canal at Kellys Ford. A series of cost-cutting measures had kept the new waterway from being very successful. Wooden locks instead of stone, for example, needed constant maintenance. Also, by using the river bed where possible, problems arose during times of low water.

In 1845, with an infusion of funds from bonds subscribed by Fredericksburg's Town Council, the Rappahannock Company renewed its efforts. The company systematically rebuilt all of the locks and dams, and by 1849 navigation had been provided from Fredericksburg to Carter's Run at Waterloo. When completed, the Rappahannock Navigation System had 33 locks (18 stone and 15 wooden); 20 dams, 14 of which had guard locks (7 stone); and 14 canals totaling 15 miles. The dams were constructed as cribs of crisscrossed timbers filled with stone and were made watertight with planking. These dams resulted in a series of navigable ponds. Each dam had either a lock for the passage of boats or a canal with a guard lock to protect the canal from floods, as well as one or more locks at the lower end of the canal to allow boats to re-enter the river.

In addition to improved navigation on the Rappahannock River, there was a very impressive canal system built on the Rapidan. Although only 1.3 miles long -- to bypass the series of rapids at the confluence -- the Rapidan Canal consisted of 8 stone locks and the longest dam constructed on the River. This dam, the remnants of which include some timbers and a row of iron spikes in the bedrock, extended across both the Rappahannock and the mouth of the Rapidan. The canal's towpath embankment is held in place by a large stone wall. Lock 9, one of many picturesque remnants of the system, was built into the bedrock.

During the period 1850-1854, navigation was also improved along another of the river's tributaries. The Hazel River Navigation Company built a series of eight dams, 12 locks (one of stone), and approximately two miles of canal. Building the Hazel River Navigation system was particularly frustrating because in the middle of construction, a flood changed the course of the river, requiring some more canal building. This system was apparently less successful than that on the Rappahannock. The locks, dams, and canals along its course were probably used very little. The wooden dams and locks have long since deteriorated, leaving rows of broken rock along linear depressions.

The remnants of much of these systems are still evident today, especially the stone locks that were built on the stretches below Kellys Ford. Several of the stone locks on the lower section are very impressive and relatively intact. The locks on the upper sections, on the other hand, were built like the dams -- timber frames filled with stones. This type of construction has decayed above ground, and all that remains visible today, under considerable underbrush, is a shallow depression between two rows of broken rock. The effort expended on this navigational system was enormous and seems ludicrous for the period of time the system was in operation. Apparently, none of these canals proved profitable. Even as they were being laboriously constructed, the advent of the railroad ensured their imminent demise. By 1853, five years after completion of the Rappahannock Navigation System, the canals had begun to fall into disuse. The reality, though, is that before railroad technology became available, there was virtually no alternative, other than wagons on rough roads, for moving bulk goods out of the interior reaches.

In 1854, the Rappahannock Navigation Company built a dam along the canal for the Fredericksburg Water Power Company. This new dam shortened the canal into Fredericksburg from 3 1/2 to 2 miles long. It was a crib dam consisting of large timbers spiked together like a

log cabin, filled with stone, and planked watertight on the upstream side. This dam's function effectively shifted the emphasis of the canal system from transportation to water power.

Other dams located along the navigational canal system created pools of water along its length. Mills and other industries were built near them to tap into the head pressure created by the dams, which ranged between 5 and 11 feet in height. These enterprises included mills upriver, as well as in both Falmouth and Fredericksburg; enterprises like Hunter's Iron Works, Scott's Mill, Strode's Mill, Miller's Mill, Urquhart's Saw Mill, the Culpeper Gold Mine, Germanna Mills, Richard's Ferry, Skinker's Mill, Ellis' Mill, Cochran's Mill, and others. Fauquier County alone boasted approximately 30 mills along the Rappahannock River. Most of the sites of these industries, as well as remnants of their millraces and canals are known and mapped. Others, however, have yet to be discovered.

By the early twentieth century, electrical power had become increasingly available for industrial use, and the mills and factories themselves no longer had to be built on waterways. Instead, the river's water was used to power turbines to generate electrical power, notably by the Rappahannock Electric Light & Power Company, the first electric generating plant in the Fredericksburg area. Founded in 1887, this local firm provided power for homes, public buildings, and businesses.

As electricity replaced water power, larger generating plants were needed to meet the growing demand. In 1909, the Fredericksburg Water Power company completed a concrete structure called Embrey Dam, located approximately 60 feet downstream of the early wooden dam that remains preserved in the water upstream. An original stone lock, dating from the 1855 dam, is also extant. The Embrey Dam consists of an upstream slab supported by buttresses anchored to the rock base. The spillway is 770 feet long and 22 feet high. Rather than water power, though, its purpose was to generate electric power beyond the amount being generated by a local firm for local use. In 1910, the Fredericksburg Water Power Company was purchased by Frank Jay Gould (the youngest son of the famous nineteenth century financier Jay Gould), and established as the Spotsylvania Power Company. He produced electricity at a power house located in the vicinity where the canal now reenters the river. The Virginia Electric Power Company acquired this plant in 1926 and kept it operational until the early 1960s.

The Civil War

During the Civil War, the Confederate Army of Northern Virginia and the Union Army of the Potomac faced each other along the corridor for almost four years, and at least six major battles and numerous minor actions occurred near the river.

Railroad construction during the 1850s refocused Fredericksburg from the east-west orientation of the river to the north-south axis of the Richmond, Fredericksburg, and Potomac Railroad. During the period 1862-1864, this new transportation corridor brought the contending armies to Fredericksburg, where the Rappahannock and Rapidan Rivers became barriers to military operations. The bridges across the River were destroyed early in the war, and the upriver fords and their surrounding terrain gained prominence as a result.

The Civil War spilled into the Rappahannock Valley in the Spring of 1862. In March of that year, Union Major General George B. McClellan moved his Army of the Potomac to the peninsula between the York and James Rivers. His intent was to capture Richmond and end the war. Confederate General Joseph E. Johnston hurried his army south to meet this threat. Into the void arrived a Union corps, under Major General Irvin McDowell, which occupied Falmouth in April.

The armies inevitably gravitated to the north-south corridor through Fredericksburg as it was the most direct route between the two warring capitals, Washington and Richmond. The Richmond, Fredericksburg, and Potomac Railroad served as the logical conduit for the logistics necessary to sustain concentrated armies in the field.

McDowell's Federal force occupied Fredericksburg briefly, but was soon drawn to the west to help crush Major General Thomas J. "Stonewall" Jackson's forces in the Shenandoah Valley. Over a 30-day period, Jackson outmarched and outfought his adversaries there. He then brought his troops to assist the renamed Army of Northern Virginia, under the command of General Robert E. Lee. Together, they would push McClellan back from Richmond.

McDowell's corps was merged into the newly created Army of Virginia commanded by Major General John Pope. In July 1862, while Lee and McClellan faced each other on the Virginia Peninsula, elements of the Army of Virginia probed toward Culpeper, Orange, and Madison Court Houses. Pope then advanced further south toward Rapidan, planning to capture Gordonsville. Lee sent Stonewall Jackson back to the Rappahannock Valley to counter Pope's movements. Of critical concern was the rail junction at Gordonsville, which connected to Richmond via the Central Railroad. In August, Jackson attacked one of Pope's brigades at Cedar Mountain.

Jackson was soon followed by the rest of Lee's forces, and the Army of Northern Virginia soon opened what became the Second Manassas Campaign. The contending armies moved away from the Rappahannock Basin, fought at Manassas, and met again along Antietam Creek near Sharpsburg, Maryland. The Army of the Potomac, having absorbed Pope's Army of Virginia, moved south from Maryland in pursuit of Lee's Army of Northern Virginia. The corridor of operations was again along the rail corridor, the Orange and Alexandria Railroad. McClellan was replaced by Major General E. Burnside to command the Army of the Potomac.

Burnside abandoned the Union advance along the Orange and Alexandria. On November 15, he began moving his operations to Fredericksburg, where his troops could be supplied by ships at Aquia Landing, and then by the US Military Railroad using the Richmond, Fredericksburg and Potomac right-of-way to Fredericksburg. In December, Burnside forced a crossing of the Rappahannock at Fredericksburg and laid pontoon bridges at three locations. The subsequent battle proved disastrous to the Union forces, and a few days later the Army of the Potomac retreated from the wrecked town.

In January 1863, Burnside sought to redeem himself and ordered a march upstream to flank the Confederates out of their Fredericksburg position by crossing at Bank's Ford. The

movement began on January 19th, but the weather turned the roads to mud, and the Union effort stalled. This ill-fated movement soon collapsed, and Burnside was relieved of command shortly thereafter. His successor, Major General Joseph T. Hooker, began to rebuild the demoralized troops for further campaigns in the spring.

During the long winter months, the contending cavalry remained active. In February, Confederate Brigadier General Fitzhugh Lee raided Union cavalry outposts near Hartwood Church. Hooker authorized his cavalry commander, Major General George Stoneman, to respond. In March, one of Stoneman's divisions forced a crossing of the Rappahannock at Kellys Ford to confront the southern horse soldiers at Culpeper Courthouse. During the battle that rolled across the landscape, the Union cavalrymen held their own against General J.E.B. Stuart's Confederate horsemen.

While cavalry operations became increasingly aggressive, the Union Army worked to revise its logistics to enhance its capability to operate beyond a supply depot fed by a railroad. By carefully specifying equipment and rations to be carried by wagons and the troops themselves, the Federals were able to increase their tactical mobility and range of operations. During the ensuing Chancellorsville Campaign, Hooker proved the effectiveness of this new approach. In late April, he sent corps far upstream to cross the Rappahannock at Kellys Ford. These units then swung south to cross the Rapidan at Germanna and Ely's Fords, placing Federal forces on the same side of the river as Lee. Federal columns subsequently moved south along the river and uncovered United States Ford, across which additional troops poured. Another column advanced along River Road toward Bank's Ford.

While Hooker had been able to effectively rebuild the Army of the Potomac and improve operational capabilities, he mismanaged this potent force once he had brought it to battle. Lee exploited this weakness and maneuvered to destroy the invading force. However, Lee's victory at Chancellorsville had been a costly one. On the night of May 3, 1863, Stonewall Jackson was mistakenly wounded by a picket of his own men. He was taken to a field hospital at Wilderness Tavern and placed under the care of friend and surgeon, Dr. Hunter McGuire. Jackson seemed to be recovering over the next few days. Shortly after being moved to Guinea Station, 10 miles south of Fredericksburg, he developed pneumonia and died on May 10th. His last words were, "Let us cross over the river [Rappahannock] and rest under the shade of the trees."

Following Chancellorsville, Lee made plans to take his Army of Northern Virginia into Maryland and Pennsylvania. Hooker heard rumors that such an offensive was imminent and alerted his calvary to the need for additional reconnaissance. The Army of the Potomac's mounted arm, now under the command of Major General Alfred Pleasanton, moved out of Falmouth on June 8 and headed upstream toward Culpeper. The next day, Union troops splashed across both Beverly's and Kellys Fords and initiated a major cavalry action that became known as the Battle of Brandy Station. Once again, the Union horse soldiers held their own against Stuart. They also confirmed that the Confederates had abandoned their lines at Fredericksburg and were moving north. The scene of action again shifted away from the Rappahannock Valley, this time to roads that led to Gettysburg.

A new Union commander, Major General George S. Meade, achieved victory at Gettysburg, but fighting in Virginia did not immediately resume. After Lee's retreat from Pennsylvania, the two armies paused to recover from their ordeal. Lee had moved back to Culpeper while Meade followed, but remained north of the Rappahannock. In September, however, Lee sent two divisions to Tennessee. Meade learned of this reduction in strength and soon advanced on Culpeper. Lee withdrew behind the Rapidan, but in early October, two of Meade's corps were moved to Tennessee. Lee responded to the loss in Union strength by advancing back into Culpeper. Meade withdrew north, followed by Lee, but soundly thrashed one of Lee's corps at Bristoe Station on October 14, 1863. This brief campaign ended with Lee still north of the Rapidan, but south of the Rappahannock.

Meade renewed his offensive in order to retake the ground between the Rappahannock and Rapidan Rivers. On November 7, he forced a crossing at Kellys Ford and also captured a Confederate detachment at Rappahannock Station (Remington). Lee crossed to the area south of the Rapidan.

Meade consolidated his gains and established a supply depot at Brandy Station. He then maneuvered to turn Lee's flank in what would come to be called the Mine Run Campaign. On November 26, Meade crossed the Rapidan at Jacob's, Germanna, and Culpeper Mine Fords and turned his columns to the west. Lee countered by taking a strong position along Mine Run. Rather than engage in a potentially unsuccessful frontal assault, Meade called off the attack.

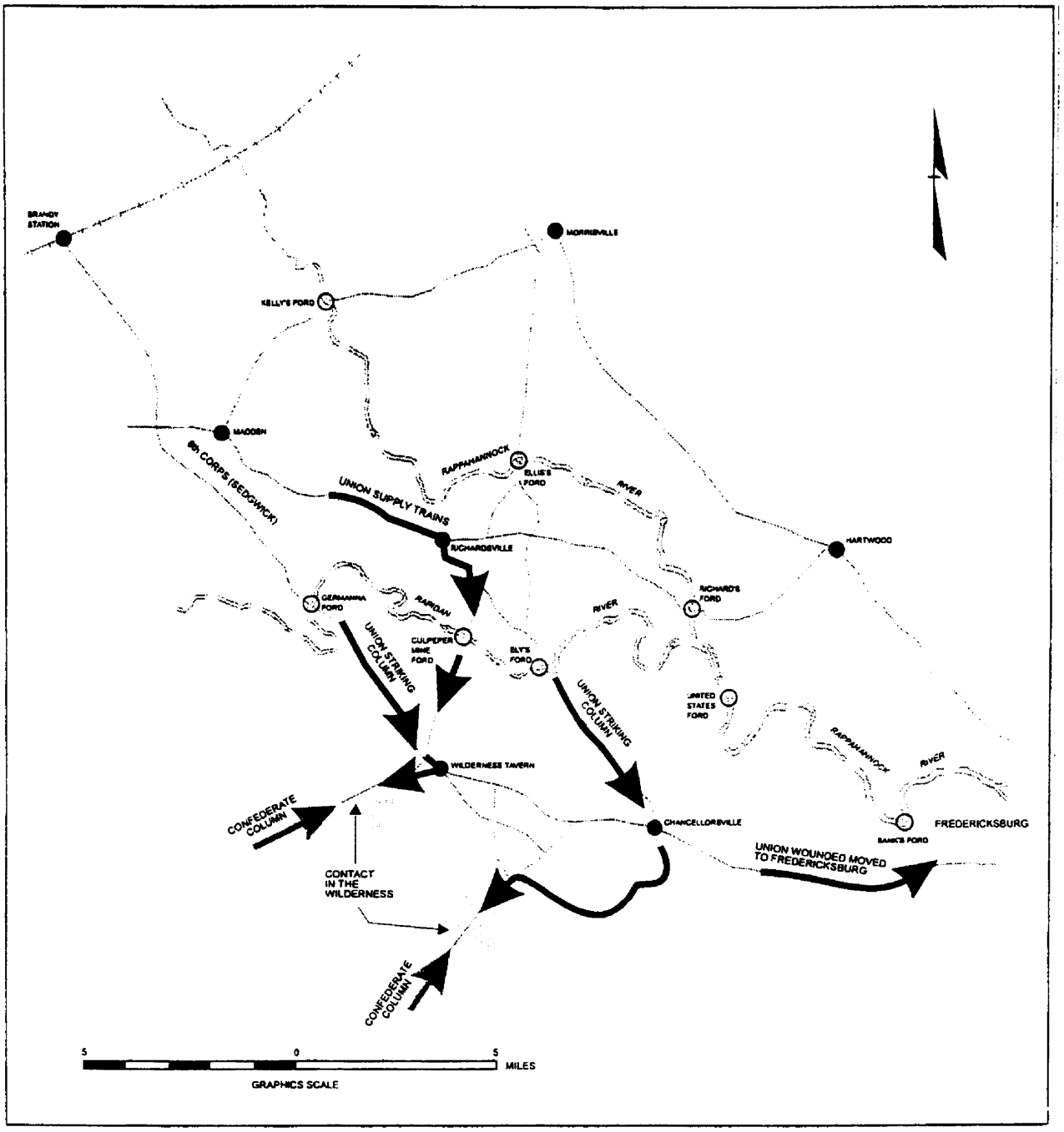
Following this season of maneuver, the two armies settled into winter quarters. The Union Army maintained its massive supply depot at Brandy Station to support its encampments around Culpeper. The Orange and Alexandria Railroad served the Federal forces well that winter, and the Army of the Potomac gained strength for 1864. Lee also maintained a rail-supplied depot at Gordonsville, but the Confederate supply system could not meet his needs. Once again, Lee had to disperse his army so its components could find adequate subsistence.

The danger of this necessity was that the Army of the Potomac could initiate action in the spring before the Army of Northern Virginia could concentrate. This eventuality had occurred at Chancellorsville and would occur again in the spring of 1864. Only the last minute arrival of Longstreet's Corps from Tennessee, on May 6, 1864, would avert disaster to Lee's Army in the Wilderness.

During this winter, Ulysses S. Grant, newly promoted to lieutenant general, came east to assume command of all Union armies. He made his headquarters with Meade's Army of the Potomac. The Union Army's logistics capabilities had continued to evolve, and Grant planned for Meade to cut loose from his supply base at Brandy Station when he again took the field. Rather than advancing along a rail line, the Army of the Potomac would benefit from a series of temporary depots established as circumstances dictated. The first of these depots was established at Fredericksburg, as Grant and Meade advanced on Spotsylvania Courthouse, following the Battle of the Wilderness. As operations moved south, other depots would be established along the coast, supported by the U.S. Navy. After the last wounded soldiers from Grant's overland campaign were evacuated to Northern hospitals, the Federal quartermasters closed their depots in

Fredericksburg and moved them closer to the operations being conducted around Richmond and Petersburg. On May 4, 1864, the Army of the Potomac advanced out of Culpeper and crossed the Rapidan at Germanna and Ely's Fords. At Germanna, Grant watched as his powerful columns crossed on several pontoon bridges and snaked into the Wilderness, initiating the last military campaign that would be fought in the Rappahannock Valley.

During that period between 1862 and 1864, both the Union Army of the Potomac and the Confederate Army of Northern Virginia made use of Banks Ford, United States Ford, and Kellys Ford on the Rappahannock, and Elys and Germanna Fords on the Rapidan. The ground in the vicinity of these crossings is still scarred by entrenchments, artillery epaulments, and picket posts. In addition to the major battles fought at Fredericksburg, Chancellorsville, the Wilderness, and Spotsylvania, other actions occurred at Rappahannock Station (Remington), Brandy Station, and Mine Run. The presence of these mass armies created a tremendous demand for firewood, as well as building materials for winter encampments. By the time the armies moved on to other areas of operations in 1864, the countryside for miles around had been stripped of trees. The war had devastated local communities, but in its aftermath, the Rappahannnock River once again provided the necessary power for riverfront enterprises to rebuild.



Map 50. Military Use of Culpeper Mine Ford. In the opening moves of the Wilderness Campaign, Grant's supply trains crossed at the Culpeper Mine Ford, between his two striking columns. As the campaign progressed, Grant shifted his base of supply to Fredericksburg, where hospitals were also set up to handle casualties.

Source: *Historic Resources Along the Rappahannock and Rapidan Rivers*

C. Recreation

Uses

The Rappahannock River corridor has the capacity to meet a diverse range of recreational needs with its concentrations of wildlife, plant life, cultural and historic resources, geologic features, and free-flowing water. The undeveloped nature of the river corridor can be attributed, in part, to the fact that the City of Fredericksburg owns approximately 4,800 acres of land along both sides of the Rappahannock and Rapidan Rivers, in Culpeper, Fauquier, Orange, Stafford, and Spotsylvania Counties.

The dispersed nature of activity on the river makes it difficult to quantify the number of people using the river each year. Typically, there is a lot of activity from spring through the fall, with the greatest use in the summer. In 1994, a recreational survey to quantify river use was conducted by the city and the Friends of the Rappahannock. Survey results indicated that over 2,000 people used the river during August 1994. However, follow-up discussions with local outfitters and other associated individuals indicated that this number was low and did not accurately reflect the volume of recreational activity.

Fredericksburg's Watershed Property Management Policy makes the city's upstream holdings available for general recreation. Allowed recreational uses include hiking, camping, hunting, fishing, birdwatching, boating, and swimming. Fishing is an extremely popular activity almost everywhere. Boat or float trips are popular because the river corridor is relatively undisturbed and undeveloped. Hiking and biking are limited due to the rough character of much of the terrain in the river corridor. The city has proposed the construction of a bicycle/foot trail along the river in the vicinity of the I-95 corridor.

The numerous cultural resources found along the corridor provide interpretive/ educational opportunities. Canoeing is the best way to see the historic sites along the old Rappahannock Navigation System. Dam sites are marked by small rapids, usually with some timbers in the water. Dams were built like log cabins, of heavy crisscrossed timbers, and filled with broken stone and planked watertight. The wood has rotted away aboveground, leaving a row of loose stone. The 20 dams on the Rappahannock backed up a series of flatwater ponds.

The 800-acre Motts Run Reservoir and Park, located in Spotsylvania County, is owned and operated by the City of Fredericksburg. The reservoir serves as an emergency water supply for the city and Spotsylvania County. Recreational opportunities include fishing and non-motorized boating around the 160-acre lake, hiking along 2.4 miles of trails, picnicking, and wildlife observation. The Motts Run boat launch, located on the site, provides the eastern most public access point on the river within the study corridor.

The Virginia Department of Game and Inland Fisheries owns and manages the Chester F. Phelps Wildlife Management Area, located in Fauquier and Culpeper Counties. Most of the management area's 4,539 acres are located in southern Fauquier County. Primarily, the area is rolling with low hills and shallow valleys. The steepest land occurs near the Rappahannock River. Several small streams cross the area and a 3-acre pond is located near the center of the

property. Over 1,000 acres are open as a result of past agricultural use. The forested portion of the site consists of both pine and hardwood and ranges in age from seedlings to mature hardwood. Good hunting opportunities are provided for small and big game species. Fishing opportunities are provided by the 3-acre pond or along the 6-7 miles of river shoreline. Other recreational opportunities include wildlife observation, hiking, and nature photography. The area also provides opportunities for participating in or observing sporting dog field trials. Associated with the Culpeper County tract is the Kellys Ford parking area and ramp, which provides access to the Rappahannock for small boats and canoes.

Access

Although the Rappahannock River itself is a public waterway and resource, public access to and from the river is quite limited. There is no formal access above the Kellys Ford ramp, located downstream from the U.S. Route 29 bridge. Several secondary roads bridge the river between the U.S. Routes 211 and 29 bridges, but using them to access the river is subject to permission from private landowners. River users accessing the river at the old U.S. 29 bridge typically park at a local store on the Remington side of the river. Users should request permission of the store owner to park.

The float trip from Kellys Ford, located off Route 620, to the next public access at Motts Run, located off Route 618, is approximately 25 miles and requires 2 full days to float. Informal access is located at various points in-between Kellys Ford and Motts Run, and all require permission of the private landowner. Some of the local outfitters have made formal arrangements with the landowners for alternate access to the river. The Rappahannock River Campground provides access to the river for their visitors/users. The Department of Game and Inland Fisheries is proposing to construct a new ramp in an area known as Snake Castle, located downstream of the Phelps Wildlife Management Area. If this ramp is constructed, opportunities will be created for shorter floats between Kellys Ford and Motts Run.

River Trail

The 1996 *Virginia Outdoors Plan*, as part of the expansion of trials/greenways, proposes the development of a Rappahannock River Trail, which would connect the rapidly urbanizing Fredericksburg area with the Appalachian Trail. Another concept is to develop a Rappahannock River Water Trail that would connect the upper reaches of the river with the Chesapeake Bay.

D. Existing Recognitions and Designations

National Wild and Scenic Rivers System

In 1968, Congress passed the National Wild and Scenic Rivers Act (NWSRA), Public Law 90-542, to preserve and protect wild and scenic rivers and their immediate environments. As a result of the NWSRA, the National Park Service prepared and maintains the Nationwide Rivers Inventory (NRI) of significant free-flowing rivers. Segments of rivers included in the NRI have been identified as meeting the minimum requirements for further study and/or potential designation to the National Wild and Scenic Rivers System. From the NRI, river segments are

selected for further study pursuant to Subsection 5(a) of the NWSRA (i.e., Study River) to determine if they warrant inclusion in the System. Certain federal projects that could adversely affect Study Rivers are prohibited during the river study period. Such projects include dredge and fill activities associated with channel relocation or encroachment that would affect the free-flow conditions of the river. The construction of river crossings is not prohibited during the study period but may alter the eligibility status of a Study River as either wild, scenic, or recreational.

The Rappahannock River, from I-95 upstream one mile past Route 620 (Spotswood Furnace Road), is listed on the Nationwide Rivers Inventory. This river segment is listed for "Outstanding Remarkable" in three categories: recreational, geological, and historical. The recreational values sited are the large and diverse flow gradients, the undeveloped river accessible to urban populations, and excellent smallmouth bass fishing. The geological values cited for listing are the "significant topographic variation including cliffs over 200' high." The historic values cited are the "Rapidan Dam Canal of the Rappahannock Navigation System [which] is a linear National Historic Register Site" within the river segment. This National Register site is located near the confluence of the Rapidan and Rappahannock Rivers. At this time, this river segment has not been designated as a component of the National Wild and Scenic Rivers System, nor is it under consideration as a Study River.

Virginia Scenic River

The Rappahannock River was designated in 1985 as a Virginia Scenic River for 84 miles between the headwaters near Chester Gap and the Route 3 bridge south of Fredericksburg. The river was listed, in part, due to its historical resources. The upper portion of the designated area is narrow and bounded by extensive agricultural lands. In the middle section, from Remington to near Fredericksburg, the river is wider, with frequent islands, boulders, and rapids. The adjacent landscape is rugged and includes heavily wooded hillsides. The lower section, near Fredericksburg, is relatively flat and has a wider channel. The land use is more suburban, and there are several large bridges crossing the Rappahannock River, including I-95, U.S. Route 1, and Route 3. The Virginia Scenic River Act, Section 10.1-415(F) of the Code of Virginia, specifically states that the Commonwealth, the City of Fredericksburg, and the counties of Stafford and Spotsylvania are not precluded from constructing any road or bridge within the section of the Rappahannock River that is designated as scenic.

American Heritage River

The Friends of the Rappahannock and their partners submitted an application to have the Rappahannock River designated as an American Heritage River. The Federal Government initiated this program to designate rivers with important natural, cultural, historical, and economic values. The goal of the American Heritage Rivers initiative was to support riparian communities, within existing laws and regulations, by providing them with better access to information, tools, and resources, and by encouraging private funding of local river efforts deserving of special recognition. The Rappahannock is unique for the East Coast because of its pristine character on the brink of a megalopolis. Flowing through the fastest-growing area in Virginia, it has rich prehistoric and historic features and exceptional natural qualities. The

nomination focused on the 30-mile stretch of the river going upstream from Fredericksburg. While the nomination received much consideration, the only rivers in Virginia to be among the initial 14 designated by the President were segments of the Potomac and New Rivers. However, the Rappahannock should continue to be considered for this special designation.

E. Land Ownership

Locally Owned Lands

The City of Fredericksburg owns approximately 4,800 acres of riparian land on the Rappahannock and Rapidan Rivers in Spotylvania, Stafford, Culpeper, Fauquier Counties and the city. The city had acquired approximately 5,000 acres in 1969 from the Virginia Electric Power Company (VEPCO). VEPCO had acquired this land from the Fredericksburg Power Company, which, in the early twentieth century, had envisioned a series of three dams on the river to generate electrical power. Nuclear powered generators on the North Anna River, however, replaced the need for hydroelectric power in the Rappahannock Valley after the construction of only the Embrey Dam. The city acquired the property in anticipation of a proposed flood control dam (Salem Church), to be built by the U.S. Army Corps of Engineers. The project was eventually eliminated from further consideration by the federal government.

The city sold approximately 200 acres of this riparian property in two separate parcels. One was sold to Stafford County for the development of the Rocky Pen Run Reservoir. The second was sold to Spotsylvania County for the development of the Hunting Run Reservoir. Both counties acquired these proposed reservoir sites to accommodate projected future water demand.

State Owned Land

As previously discussed, the Virginia Department of Game and Inland Fisheries (DGIF) owns the Chester R. Phelps Wildlife Management Area, which is 4,539 acres and located in Fauquier and Culpeper Counties. This property has approximately six miles of riverfront on the north side of the Rappahannock. DGIF also owns Kellys Ford ramp and leases the Motts Run ramp from the City of Fredericksburg.

Non-profit Owned Lands

The Association for the Preservation of Civil War Sites owns a 500 acre parcel within the Brandy Station Civil War Battlefield, located in Culpeper County.

Easements

The Virginia Outdoors Foundation owns easements adjacent to city property in Stafford County. Easements in other ownerships are located in Culpeper County.

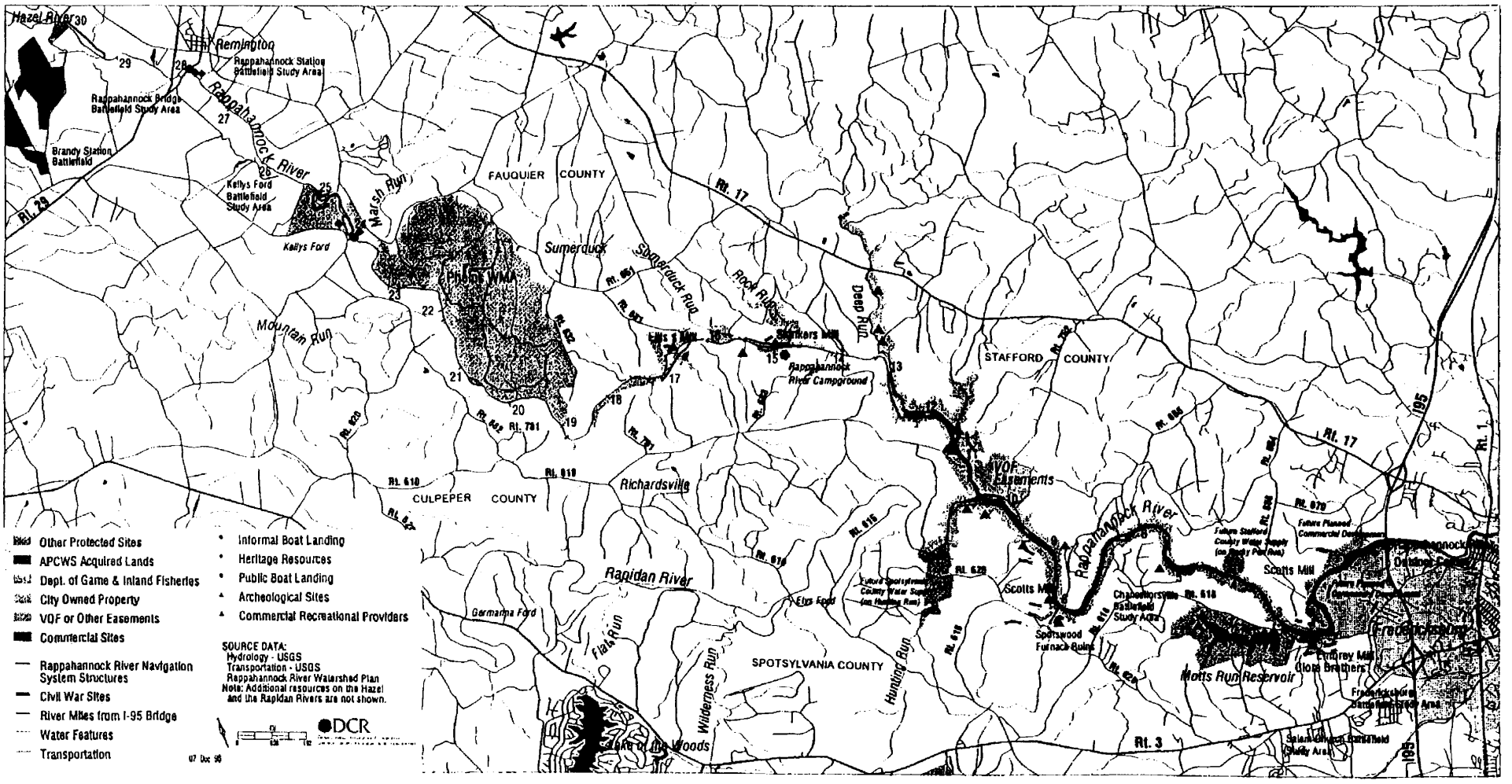
Private Lands

The majority of land located immediately adjacent to the Rappahannock River in Culpeper and Fauquier Counties is privately owned.

RESOURCES OF THE UPPER RAPPAHANNOCK RIVER CORRIDOR

NAME OF RESOURCE	LOCATION &COMMENT	ADMIN. BY:
Chester Phelps WMA	Fauquier & Culpeper Cos. 4,539 ac.	Dept. Of Game and Inland Fisheries (DGIF)
Motts Run Ramp	Spotsylvania Co. (on city prop. leased)+/- 0.7 ac.	DGIF,City, Spotsylvania Co
Kelly's Ford Ramp	Culpeper Co. (in WMA)+/- 2ac.	DGIF
City of Fredericksburg Lands	Spotsylvania,Stafford Culpeper, Fauquier Cos. & City +/- 4,800 ac.	City DPW
Stafford Res. Site	Stafford-- acqd. from City for water supply res. ? ac.	Stafford Co.
Spotsylvania Res. Site	On Rapidan--acqd for water supply res. +/- 100 ac.	Spotsylvania Co.
Rappahannock River Navagation System	Spotsylvania, Stafford, Culpeper, Fauquier Cos. & City--80 locks, 20 dams & 15 mi. of canals	City & Private Owners
Brandy Station C. W. Battlefield	Culpeper Co. +/- 1,000 ac.	APCWS
Civil War sites (OTHER)	Spotsylvania, Stafford, Culpeper, Fauquier Cos. & City	Private Property , City, APCWS, & NPS
Other historc and Archaeological sites	all localities	Private Property and City
Heritage Resources	Sporsylvania, Fauquier Culpeper (eagles, fresh water mussel, Red-osier Dogwood, Susquehanna Cherry)	City, DGIF, and Private Property
Easements	Stafford Co.	VOF

RAPPAHANNOCK RIVER CORRIDOR STATE PARK FEASIBILITY STUDY



IV. ISSUES

A number of significant issues concerning the establishment of a state park were identified by the Advisory Committee, during the presentations to the local governments, and through the public meeting and information process. As summarized below, these issues are considered to be instrumental in determining if a park on or along the banks of the Rappahannock River is feasible/acceptable.

A. Property Rights/Condemnation

One of the first issues that emerged during the discussions about the river corridor was that of property rights. Private property owners, especially in Fauquier and Culpeper Counties, were concerned that the state was about to take private lands for a state park. Since no sites were identified, some of the property owners feared that the state was considering taking a wide swath of land along both sides of the river between Remington and Fredericksburg.

They also felt that their quality of life would be severely impacted by the additional people the park would bring to the area. Many noted that they had moved into this rural part of the state to escape the crowding and congestion of Northern Virginia. They were concerned a major state park would bring in lots of outsiders who would have no respect for their rights as property owners along the river. Others whose families had owned land along the river for generations felt that they had cared well for the river and that state intervention was not necessary.

There were also major concerns among some property owners that the state will condemn the lands needed to create the state park. The DCR Director and staff attempted to reassure property owners that the state has no plans to condemn anyone's land to create a park. They also emphasized that land would only be acquired on a willing seller basis. The fear is that although the state has no plans to use its power of condemnation, there are no assurances that condemnation would not be used in the future to acquire lands that the state determines are needed for a state park on the river.

B. Trespass/Vandalism

Many of the private property owners felt that there was already too much use on the river. They cited examples where river users have trespassed on private property. In some cases, it was reported that recreationists camped on private property without permission, left large piles of trash, and when confronted by the property owner, were insulting. Trespass was one problem that many of the riparian land owners felt would become worse if a state park was established along the river. In addition, concerns were also expressed about incidences of vandalism and litter. Several landowners reported gates being left open, fences being cut, and trash being left where people had camped or fished without landowner permission. Some reported instances of confrontation with individuals trespassing on their property to access the river.

C. Recreational Access

Recreational access to the section of the Rappahannock River between Remington and Fredericksburg has been a controversial issue for more than 20 years. The only publicly owned access points are at the Route 620 bridge, Kellys Ford, and at Motts Run Reservoir near Fredericksburg. An informal access at the old Route 29 bridge has been used, but frequently users encroach on private property while launching canoes at this site. There are a number of private access points, but these are generally unavailable to the public. During the preparation of this report, there has been a substantial amount of discussion about the public access issue. This has resulted in the identification of five sub-issues discussed as follows:

Not Enough Access Versus Too Much Access

Some user groups felt that the limited number of public access opportunities was a major contributor to retaining the wild and scenic corridor of the river. They believe that if additional public access points were provided, the increased traffic generated by those sites would degrade the quality of the resource and eliminate the wild and scenic character of the river corridor.

Others felt that by providing additional access points at regular intervals, approximately five miles apart, recreational use on the river will be dispersed. The additional access sites would reduce crowding at put ins and take outs. They believe that additional sites could reduce the amount of trespass complaints, and river users would have a more reasonable travel distance between public access sites.

As the sites are located now, it is not possible for recreationists who put in at Kellys Ford Bridge to reach Motts Run Landing in a single day. This forces users to trespass on private property or locate the city owned lands in order to get off the river. The private outfitters that operate on the river have arranged for their clients to camp at the Rappahannock River Campground, or have identified sites on city-owned land where camping is encouraged. These arrangements do not provide places where users can get off the river to stretch, have a picnic, or find a rest facility. Also, users that are not supported by the outfitters are totally on their own, and if they are unfamiliar with the river, it is likely that they will utilize private lands.

Unmanaged Areas

There are numerous sites along the river that have become popular among river users. These sites include Kellys Ford Rapids, the Snake Palace, the Confluence, the Hole in the Wall, and a number of islands, as well as some privately owned sites. Many of these sites are heavily used during peak periods and sometimes become littered with trash or worn down by over-use. The outfitters have adopted some of the sites and help to clean them periodically. However, since there is no management presence on the river, some areas have become cluttered, eroded, or over-used, and there is no mechanism in place to systematically provide the level of support service required. A major issue is the lack of restroom facilities along the river.

Public Versus Private

There has been considerable discussion about the role of the public agencies versus the private sector in managing the river corridor. Some believe that private land owners have taken good care of the river so far and could take care of it in the future. They argued that the state should allow the outfitters, campground owners, and private citizens to manage the river corridor, and the state should stay out of the picture. Others have suggested that there are already numerous problems with trespass, alcohol and drug abuse, vandalism, and note that there is no mechanism in place to manage use and resolve conflicts. A state presence could provide unified corridor management, educate users, and provide a greater degree of law enforcement and coordination of emergency rescues, etc.

Problems at Existing Public Access Areas

Concerns expressed about the publicly owned sites at Kellys Ford and Motts Run include alleged vandalism, excessive drinking, drug abuse, late-night parties, and littering. People have left a vehicle at one of the public sites and returned to find that their car had been vandalized. Frequently, visitors find large quantities of trash and litter around the public landings. Area residents felt that, if true, the state must clean up the existing sites and deal with the alcohol, vandalism, drugs, and other illegal activities before acquiring additional resources.

Carrying Capacity

The carrying capacity of a natural resource deals with the amount of use that the resource can sustain over a prolonged period of time without significant degradation. No one is sure how much recreational use occurs on the river reach between Remington and Fredericksburg. Some people believe that the river is already over-used and is at or exceeding its carrying capacity. These people have suggested that the state should conduct carrying capacity studies before proposing any additional use within the river corridor.

Other frequent river users agree that while some places on the river may become crowded during summer weekends and holidays, the resource is capable of supporting additional recreational activity days each season. They believe the resource could handle this use without any significant decline in the quality of the recreational experience.

D. Loss of Historic Sites

One of the greatest assets of the river corridor is the abundance of historic and archaeological resources found along its banks. The Virginia Department of Historic Resources has identified dozens of sites that are in close proximity to the river and attest to the 18th and 19th century developments that once depended upon the river in one way or another. Floods and the ravages of time have already damaged most of the sites within the floodplain. During the Civil War, the Armies of Northern Virginia and the Potomac faced each other along the corridor

for almost four years, and at least six major battles and numerous minor actions occurred near the river. There is concern that with increased use of the river these resources could be degraded without appropriate protection.

E. Corridor Management

Concerns were expressed about the state's ability to manage the corridor. With over thirty miles of riverfront and limited road access to the corridor, some wondered how an effective management presence could be established. Corridor management activities would include ensuring user safety, law enforcement, litter control, waste management, and emergency response.

F. Resources Needed to Manage the Corridor

If it is determined that a state park along the Rappahannock River is feasible, there must be a considerable commitment of resources to provide an acceptable level of corridor management. Lands, purchased or leased, will be required for support activities, maintenance area(s), and office space. A full-time staff of six to eight plus seasonal employees would be needed to adequately manage the corridor. There would also be a need for boats, vehicles, radios, and specialized equipment in order to provide operational support.

G. Extension of the Study to Downstream Areas

Residents from the Fredericksburg area would like to see the study extended to the east side of Fredericksburg. They pointed to the cultural, historic, and recreational activities in and around the city that would be of interest to visitors. The City is considering removal of Embrey Dam, which would reveal a historic crib dam that is just upstream. There are numerous historic and cultural resources within the city that are in close proximity to the river. Consideration is being given to the establishment of a museum and visitor center that would focus on the history of the river and the surrounding area. The reach of river flowing through the city is considered by some canoeists to be an outstanding whitewater run. It is felt that all these resources would add to the value and variety of any developments on the river. Others believe that the entire river is of such significance that the study should extend all the way to the Chesapeake Bay.

H. Ability of Local Governments to Withdraw or Discharge into the River

All the localities along the river rely on its waters for domestic water supply. Fredericksburg already has a major reservoir that withdraws from the river to augment its available water supply. Spotsylvania and Stafford Counties are planning large off-river impoundments that would withdraw water from the river for domestic consumption. The upstream localities have domestic and industrial withdrawals in place. The upstream localities discharge treated wastewater into the river. All the local governments want assurances that if a park is established, they would be able to continue to use the river for domestic water supply and treated effluent discharge.

V. OPTIONS FOR CORRIDOR PROTECTION

Protection of the Rappahannock River corridor is a desirable action if the unique qualities of the resource are to be retained and the wild and scenic character maintained. There are a number of tools that could be used to help keep the river corridor in its present condition. The Central section of the river has retained its wild and scenic character, in part because the City of Fredericksburg had the foresight to acquire over 4,800 areas of riparian lands in 1969 and has held onto these lands for the purpose of protecting the river corridor. The city has carefully guarded its interests in the corridor and, as a result, the river is considered by some as one of the most pristine streams in the Mid-Atlantic states. The Department of Game and Inland Fisheries (DGIF) has acquired over 4,500 acres in Fauquier and Culpeper Counties to create the Chester Phelps Wildlife Management Area. The combined actions of DGIF and Fredericksburg has protected almost 1/3rd of the river's riparian lands.

Regardless of the corridor protection mechanism(s) chosen, partnerships among the many stakeholders will be essential. Private property owners, the counties, the preservation groups, the City of Fredericksburg, DGIF, and the Department of Conservation and Recreation (DCR) will all have important roles to play if this resource is to be protected for future generations.

A. Acquisition

Acquisition of fee simple interests in land is the most effective method of protecting any resource. It is an expensive, and sometimes controversial, protection tool. Although the 1996 *Virginia Outdoors Plan* has recommended the establishment of a state park on the non-tidal Rappahannock River, actual acquisition as related to a potential state park would depend upon the charge of the General Assembly. In the event a state park is to be established in the corridor, some sort of acquisition program would be necessary. However, any future lands acquired as an element of a state park would be from willing seller(s). The Director of DCR has indicated that the department's power of eminent domain would not be used.

B. Easements

Easements are contractual arrangements for less than fee simple interest in land that allows the owner to retain title to his property, but he agrees to give up specified development/use rights of the property, usually in exchange for some economic benefit. House Joint Resolution 193 has directed that donations and easements be considered as an acceptable method in protecting the unique historic, scenic, cultural, and natural resources along the corridor. Although much is already known about the resources of the corridor, further studies may be required in order to determine the properties that might benefit by placement of an easement and the type of easement that might be applicable, i.e., historic, open space, or other special use easements.

C. Incentive Programs

A number of incentive programs are in place whereby the private landowner can take actions to protect his shoreline, prevent erosion, and help improve water quality on the river. *The*

Rappahannock River and Northern Neck Costal Basins Tributary Study has identified numerous programs that land owners can use to reduce erosion from their land and reduce the amount of stream bank erosion from river banks. Some of these programs provide incentives for land owners who install riparian buffers and/or farming, forestal, or feed lot best management practices (BMPs). All the available incentive programs would help to improve the water quality and reduce the amount of erosion in the watershed, which would help to protect the existing wild and scenic character of the river. Whether or not the Rappahannock River is considered for a state park, these programs are a valuable set of tools for protecting the existing qualities of the Rappahannock River Basin.

D. Non-profits/Trusts

Non-profits or Trusts could play an important role in protecting the sensitive resources of the river corridor. Organizations like the Association for the Preservation of Civil War Sites are already at work acquiring critical Civil War battlefields and preserving them for future generations. Trusts could be established for the protection of specific sites or other specified uses. These groups could become partners with the state or others in preserving the abundant historic, cultural, and natural resources that have been recognized statewide and nationally.

E. Land Use Actions

Local land use regulations could be one of the most powerful tools available to develop a program that would help protect the river corridor. Coordination among the state agencies and the affected jurisdictions would be necessary to ensure the effectiveness of overall corridor management, but local response would be critical. Within the limit of state enabling legislation, jurisdictions can establish both regulatory and non-regulatory standards. Local zoning or land use regulations can have a direct impact on the resource. Use restrictions analyze the environmental characteristics and suggest that certain land uses are appropriate or inappropriate. Density restrictions generally are related to the environmental impacts associated with a given density of development. Density can be controlled by lot size restrictions or clustering development away from sensitive areas.

Water resource and other overlay zones superimpose special standards or controls on existing zoned areas, usually to protect environmentally sensitive areas. For example, Spotsylvania County has imposed Reservoir Overlay Protection Districts to buffer its reservoirs and critical watersheds in order to protect water resources. Subdivision controls, setbacks and buffers, erosion and sediment controls, storm water management, steep slope controls, open space requirements, septic system controls, drainage system reservations, stream protection, and tree ordinances are among specific controls that could be used to protect the watershed and help preserve the unique qualities of the river corridor.

VI. PUBLIC PARTICIPATION PROCESS

House Joint Resolution (HJR) 193 directed the Department of Conservation and Recreation to seek the advice and consider the views of local citizens in its evaluation of the "...feasibility of creating a state park along the banks of the Rappahannock River..." In order to achieve this objective, the Director of the Department of Conservation and Recreation (DCR) wrote the affected local governments and planning districts, notifying them of the requirements of HJR 193, and he requested that they recommend representatives to an advisory committee that would meet with the DCR Study Team to identify issues and concerns to be considered in the study. Initially, 16 representatives from local government, state agencies, and organizations were recommended and agreed to serve on the Advisory Committee.

The Advisory Committee convened in July and identified numerous issues that were important to the local governments. The committee recommended that presentations be made to each of the affected local governments. In July, August and September, presentations were scheduled before each of the affected localities during one of their regularly scheduled board or council meetings. The local governments identified additional issues that were important to them. During the Culpeper County Board of Supervisors Meeting, additional citizen interests were identified, and three people representing interest groups were added to the committee.

In addition to forming the Advisory Committee, DCR held three public information meetings to allow for public input into the study process. The meetings were held in Fredericksburg, Remington, and Richardsville on the evenings of September 28th and 30th and October 1, 1998. An estimated 200 to 225 local residents attended, many of whom were riparian landowners. The discussions were lively, and the majority of those present were opposed to the establishment of a state park as proposed by the study resolution. Major concerns expressed by those opposed to the park included: loss of their property through condemnation; impact of increased river use on their rights as riparian owners; inability of the state to appropriately manage increased use of the river; and degradation, by establishment of a state park, of the very resource everyone wanted to protect. Those who did speak in favor of the park believed that it could provide additional protection for the resource, assure that the Rappahannock would be available for future generations to enjoy, and could help resolve many of the access and recreational issues currently existing in the river corridor.

VII. OPTIONS FOR STUDY CORRIDOR

As a result of the direction of HJR 193, the analysis of the resource, and the public involvement process, a range of options were developed for the study corridor. The range of options was based on a set of tenets of feasibility that was generated during the Advisory Committee meetings and presented at each of the public information meetings. These should be kept in mind when any future action on this river is to be considered.

The tenets of feasibility are as follows:

- Primary purpose of the park would be to maintain the wild and scenic character of the river.
- The park must manage its resources in such a way as to continue the quality of the recreational experience while ensuring the long term viability of the natural resources.
- Any lands, easement, or interests in lands for the park would only be acquired from willing providers.
- The river, not the adjacent shoreline, must be viewed as the linkage between any publicly owned or managed lands.
- Public/private partnerships would have to be a key element in river corridor user and resource management.
- The park must feature a strong education/interpretive component aimed not only at the many historic and cultural features of the river but also at good stewardship for river users.
- There must be adequate staffing and resources to manage whatever components make up the park's presence in the corridor.
- The park, through interpretation, education and proper development, must promote the maintenance of high water quality in the river.

Options range from the initial study request, which was looking at establishment of a state park along the banks of the Rappahannock River from its confluence with the Hazel River to the City of Fredericksburg, to leaving the river as it is and taking no additional state action. Each of the potential options is addressed as follows:

OPTION A -- Establish a contiguous state park along the banks of the Rappahannock River from its confluence with the Hazel River to Fredericksburg.

Under this option, a Rappahannock River State Park would be created along the banks of the river for the entire corridor. This option would require the acquisition of riparian lands where they are not currently in some form of public ownership. At a minimum, all land should be acquired within the 100 year flood plain and at key areas necessary to support the development of public use facilities. This option would provide the greatest degree of protection to the resource since it would place all of it in the public estate and under the control and management of the state. It is, however, the most expensive to implement since it would require the acquisition of a great deal of land currently in private ownership. Since land would be acquired on a willing seller only basis, it could also take a very long period of time to complete as a large number of the

upstream riparian owners did not want to see the park established for fear of loss of their land. It would also require arrangements with the DGIF and the City of Fredericksburg for the management of their riparian property and would require the largest commitment of staff and other resources to provide appropriate care and control.

OPTION B -- Establish Rappahannock River State Park as several park nodes of development at appropriate locations along the river.

Under this option the state park would consist of two to three nodes located at critical areas along the river. The park could consist of nodes of one hundred to several hundred acres or more, strategically located along the river. For example, there could be one node at the upper end to provide access, interpretive facilities, and public use facilities, as well as, a park enforcement presence. A second node could be located somewhere along the center portion of the river corridor and a third near Fredericksburg. Each of these would provide protection to a portion of the corridor, appropriate public use facilities, and an enforcement presence. Under this scenario, the river itself serves as the linkage between each park node.

This option would involve far less land acquisition than Option A and would have less of an impact on private landowners. It would serve to provide a state park presence on the river and resolve some of the issues raised about the management of publicly owned access sites. Each of the park nodes would have full time staff providing appropriate security, and thus, would not become places for littering, loitering and vandalism. This option would require close cooperation with the city, localities, private sector, and other state agencies to work out a comprehensive protection and management scheme.

OPTION C-- Establish a Historic Rappahannock River Conservation Corridor or other appropriate designation.

This option removes the traditional state park concept from the Department of Conservation and Recreation's involvement in the protection and management of the corridor. Under this scenario, a designation other than a state park would be used to provide resource protection and appropriate recreational management. This approach would require the cooperative efforts of all the players currently involved in the river, along with the acquisition of additional lands where needed, to provide resource protection and use management. The focus would be to protect the wild character of the river while not providing the attraction for increased recreational use that a state park label was perceived to bring. This approach would not provide typical state park amenities along the river, but would focus on preserving significant historic, natural and cultural resources. Emphasis would be on maintaining the remote recreational experience now associated with the river providing only what is necessary to meet safety, public use, educational, and resource protection needs for that experience.

This option would require close coordination with all involved with the river and would lead to a conservation plan in harmony with the intent of the designation. In addition to the potential acquisition or management of some lands by DCR or others, other techniques such as easements, incentive programs, zoning, and efforts by non-profit organizations, and private enterprises would all need to play a role. This option could serve as a formal structure for protecting the resource and managing public use so that it does not exceed desirable limits.

OPTION D -- Develop a corridor management plan utilizing existing players with no special designation.

This option would use the existing framework of land ownership and management to protect the river corridor. Any additional acquisition of land for public use would be by those localities or agencies already managing land in the corridor. Under this scenario, all players would evaluate the existing resources in the corridor and develop a management plan which would provide needed protection and resource management within the existing public land framework. Protection of other important lands and provision of recreational opportunities would be handled through the private sector, nonprofit organizations or the existing public land holders.

OPTION E -- Leave as is, no additional planning or study

This is the no-change scenario. The river would be left as is with no changes to the current management or protection of the resource.

VIII. CONCLUSIONS AND RECOMMENDATIONS

As a result of this study process, it is clear that the Rappahannock River in the study corridor is truly a river of state and national significance. The wildness of the corridor, the abundance of historic, natural, and cultural resources, as well as the outstanding recreational opportunities, make this river truly outstanding. The river, however, is threatened. Threats come both from the rapid growth and development occurring in the region and from the continued increase in unmanaged recreational use. Conflicts are increasing between those who live along the river and those who come to use it, between those who see the need to develop the surrounding land and those who wish to preserve it, between those who wish to maintain limited access (to provide a wilderness-type recreational experience) and those who wish to make the river more easily accessible to the public. One area of concurrence from all of the meetings was that the river needs to be protected and recreational use needs to be appropriately managed. While there was not clear direction on how this was to be accomplished, it was evident that any action must consider the impact on private property owners who live along the river and take great pride in the resource they help protect.

With this in mind, the Department of Conservation and Recreation has reached the following conclusions:

1. It is important that management of the existing public access sites continue to be monitored and enhanced. There is a strong perception by those who lived near some of the public access sites that these are often littered with trash and serve as places for drinking and loitering. Many felt that these public access points require more frequent law enforcement.

2. An additional study should be made of the capacity of the river to handle increased use and how existing use can be better managed to reduce conflicts. No additional public access, beyond what is currently planned, should be developed until these issues are further evaluated. One of the key reasons for landowner/user conflicts is the lack of appropriate public access to the river. Once a person puts in at Kellys Ford public access site, he/she must go all the way to Motts Run to take out. This is normally a two-day trip. Thus, the canoeist must either trespass on private property to shorten his trip or spend the night camping on the river. This too often occurs on private lands. While increasing public access to the river could relieve this problem, it could also cause use to increase beyond acceptable levels, thus destroying the very nature of the remote experience. Therefore, the additional study is needed.

3. Protection is needed for the many cultural resources in the river corridor. Educational/interpretive programming should be developed around them. The outstanding resources range from early Native American sites to Civil War battlefields and from historic locks and canals to one of the earliest North American industrial sites.

4. While feasible, it is not realistic to establish a state park that would extend along the banks of the Rappahannock from its confluence with the Hazel River to Fredericksburg. This concept would be expensive to implement from both an acquisition and management perspective. The idea was opposed by the majority of the riparian land

owners attending the public meetings. While the concept of a state park consisting of just several nodes at key locations along the river, option B, was somewhat better received, it too carried a perception of attracting higher use and causing a degradation of the resource and a loss of the remote experience.

Thus, the department recommends that option C, a Historic Rappahannock River Conservation Corridor, or other appropriate designation, be considered as the preferred option. The purpose would be to enhance the protection of the resource while managing the recreational use in line with the remote experience. Implementation of this option would require additional study by all stakeholders to determine what specifically should be done and how it should be done. Critical lands should be identified for resource protection and low-key recreational management. In effect, any lands acquired by DCR would be managed along the lines of a conservation or natural area in harmony with protecting the resource and the remote experience. Facility development would be limited to that necessary to provide resource protection, interpretive programming and to manage recreational use.

5. Should a major development occur on the Rappahannock River in the City of Fredericksburg, or elsewhere within the study area, the riparian lands should be protected with a substantial buffer of the critical waterfront property. Historic interpretation of the corridor, natural resource protection, and tourism should be important aspects of any future strategy to provide visitor information services.

During the study process, the department staff learned of a local business' conceptual plan for a major development proposed in an area near I-95 within the City of Fredericksburg and southern Stafford County. The proposed site includes some riverfront lands in the lower three miles of the study corridor. One component of this planned development would be a museum/visitor center complex. If implemented, this complex would involve major cooperative efforts among local governments, a number of state programs, and private enterprise. The visitor center is envisioned as an important focal point for the entire region and should include historic and environmental exhibits, as well as site related interpretive programs. An element of this complex could include interpretive facilities and a series of trails or walkways in the riparian areas near the river, providing access to the shoreline and the historic canals, lock structures, and other resources found along the river bank. As this concept is refined, the Department of Conservation and Recreation and other partners could assist in the identification and management of these resources within the framework of a river corridor protection plan.

6. A conservation and management presence could be established at the northern end of the study corridor by combining a Civil War battlefield owned by the Association for Preservation of Civil War Sites with additional riparian lands, should they become available, which would link the battlefield to the river. This area could serve as an educational and interpretive facility for the northern end of the conservation corridor and could be administered by DCR as part of a river management plan.

7. The key historical site of Spotswood's Tubal Furnace should be protected, possibly by being brought into the state system. This is an unprotected site, representing the

earliest part of the Industrial Revolution in America, which has been seriously degraded over the years. It is vitally important that this area receive additional protection. If acquired, the site should be stabilized, and interpretive and educational programming provided.

8. While the entire river is not a part of this specific study, interest was expressed during the report's preparation in looking at the whole river as a resource worthy of special protection and management. Consideration should be given to amending the American Heritage River designation proposal to include the lower portion of the river down to the Chesapeake Bay. In addition, thought should be given to the development of a Rappahannock River Water Trail that would traverse the length of the river. If implemented, this could have a positive impact on tourism throughout the region.

APPENDICES

Appendix A

989265198

HOUSE JOINT RESOLUTION NO. 193

Offered January 26, 1998

Requesting the Department of Conservation and Recreation to study the feasibility of creating a state park along the banks of the Rappahannock from its confluence with the Hazel River above Remington to the City of Fredericksburg.

Patrons—Davies, Howell and Orrock; Senator: Houck

Referred to Committee on Rules

WHEREAS, the area surrounding Fredericksburg has abundant historical resources of national and state significance, many of which are located on rivers such as the Rappahannock; and

WHEREAS, tourism is an important element of the region's economy and is likely to benefit from more Virginians seeking opportunities to visit gardens, historic sites, and natural areas as indicated in the 1992 "Virginia Outdoors Survey"; and

WHEREAS, the placing of a state park along the banks of the Rappahannock will connect the Civil War battlefield at Brandy Station with the City of Fredericksburg, providing residents and tourists with thirty miles of historical attractions and scenic natural beauty ; and

WHEREAS, such a park would help meet the recreational needs for the counties of Prince William, Fauquier, Culpeper, and Madison, while preserving a number of Civil War and Indian village sites; and

WHEREAS, the 1996 Virginia Outdoor Plan notes that opportunities exist in the region to meet the increasing public demand for greater access to water-related recreation, but that additional lands will have to be acquired or use agreements arranged to meet the demand; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Department of Conservation and Recreation be requested to study the feasibility of creating a state park along the banks of the Rappahannock from its confluence with the Hazel River above Remington to the City of Fredericksburg. The study shall examine the use of easement, donations of land, and land purchases as options in developing the site. In conducting the study, the Department of Conservation and Recreation shall seek and consider the views of local citizens, local governments, and regional organizations before making its final recommendations.

All agencies of the Commonwealth shall provide assistance to the Department of Conservation and Recreation for this study, upon request.

The Department of Conservation and Recreation shall complete its work in time to submit its findings and recommendations to the Governor and the 1999 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

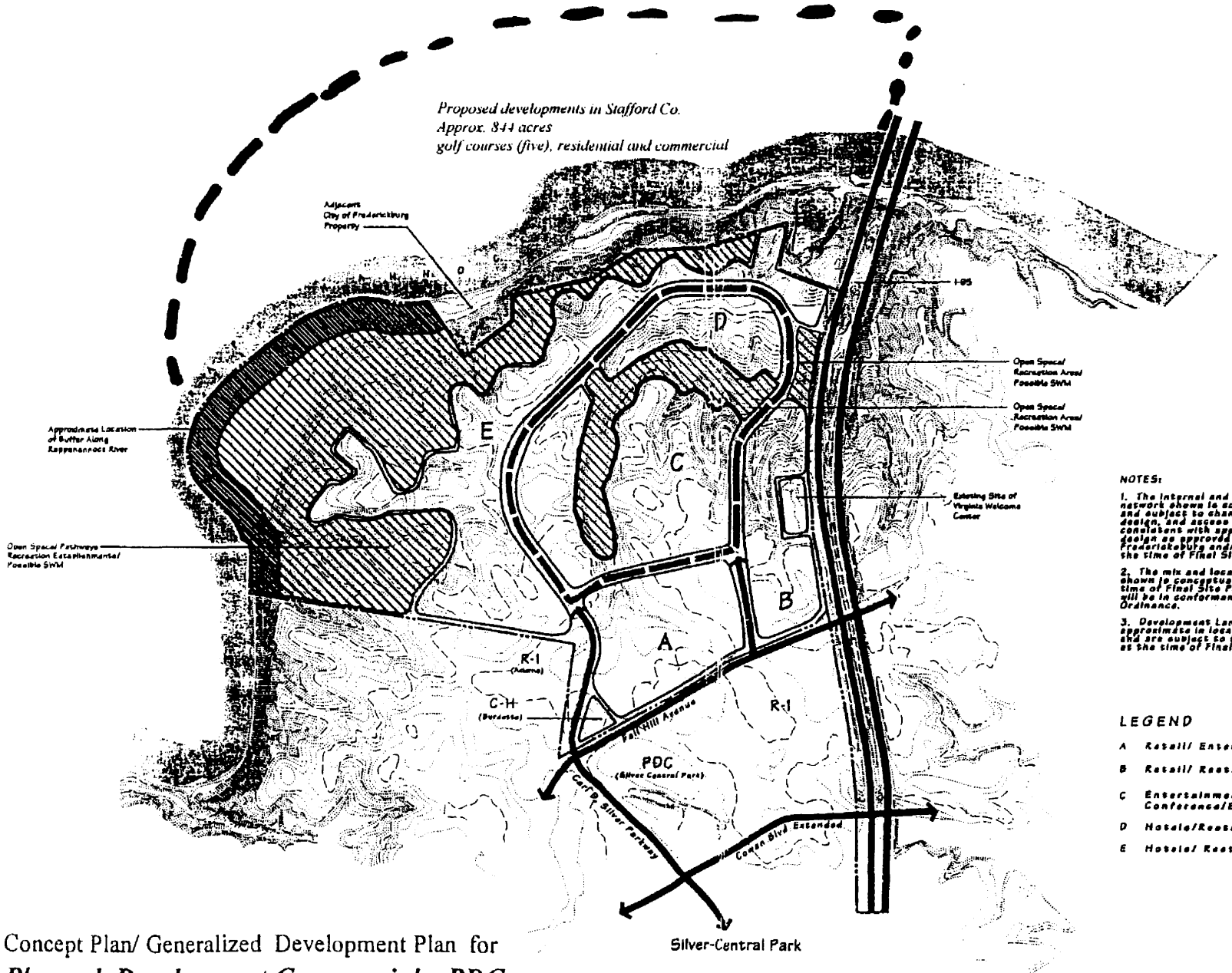
Official Use By Clerks

Passed By The House of Delegates		Passed By The Senate	
without amendment	☐	without amendment	☐
with amendment	☐	with amendment	☐
substitute	☐	substitute	☐
substitute w/amdt	☐	substitute w/amdt	☐

Date: _____ Date: _____

Clerk of the House of Delegates

Clerk of the Senate



NOTES:

1. The internal and external road network shown is conceptual in nature and subject to change. Final location, design, and access shall be provided, consistent with appropriate engineering design as approved by the City of Fredericksburg and/or V.D.O.T. at the time of Final Site Plan approval.

2. The mix and location of PDC uses shown is conceptual and may vary at the time of Final Site Plan approval. Uses will be in conformance with the PDC Ordinance.

3. Development Land Parcels shown are approximate in location and boundary and are subject to further refinement at the time of Final Site Plan approval.

LEGEND

A Retail/ Entertainment

B Retail/ Restaurants

C Entertainment/Restaurants/Hotel/ Conference/Exhibition Hall

D Hotels/Restaurants

E Hotels/ Restaurants/ Office

Concept Plan/ Generalized Development Plan for

Planned Development Commercial - PDC
formerly "The Overlook" and "Rivers Edge" Projects

Fredericksburg, Virginia

Date: May 1998
Revised: June 1998

Scale: 1" = 500' - 0"

0 150 300 600 900 1200 FT North

Appendix B

Appendix C

REFERENCES

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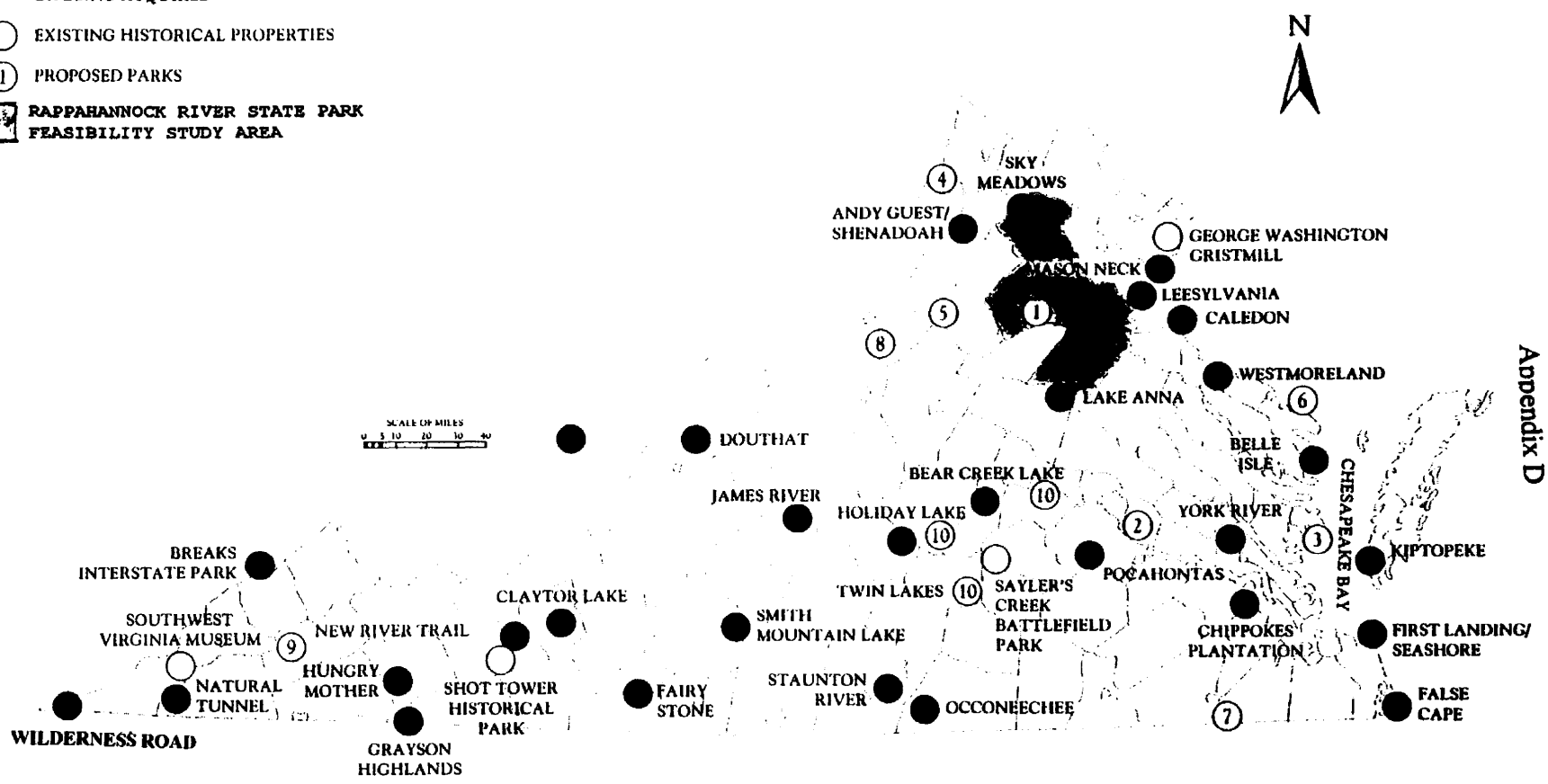
STATE PARKS

- EXISTING PARKS — ACQUIRED OR BEING ACQUIRED
- EXISTING HISTORICAL PROPERTIES
- (1) PROPOSED PARKS
- RAPPAHANNOCK RIVER STATE PARK FEASIBILITY STUDY AREA



1. RAPPAHANNOCK RIVER (NONTIDAL)
2. JAMES RIVER (NEAR RICHMOND)
3. CHESAPEAKE BAY (ON MIDDLE PENINSULA)
4. CEDAR CREEK (SHENANDOAH/FREDERICK COUNTY)
5. RAPIDAN RIVER (MADISON/ORANGE COUNTY)
6. POTOMAC RIVER (NORTHUMBERLAND COUNTY)
7. BLACK WATER RIVER (SOUTHAMPTON/ISLE OF WRIGHT COUNTY)
8. MIDDLE VALLEY (BEYOND CHARLOTTESVILLE)
9. SUPPLEMENTAL ACQUISITION OF PUBLIC ACCESS TO PINNACLE NATURAL AREA PRESERVE AND CLINCH RIVER
10. ADDITIONS TO BEAR CREEK LAKE, HOLLIDAY LAKE, TWIN LAKES STATE PARKS

Source: *The 1996 Virginia Outdoors Plan*