

Meherrin Scenic River Report Brunswick County



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Division of Planning and Recreation Resources

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I. REASON FOR THE STUDY

The Meherrin Scenic River study in Brunswick County was undertaken at the request of the Brunswick County Board of Supervisors and The Brunswick County/Lake Gaston Tourism Association, Inc. A letter to the Department of Conservation and Recreation (DCR) indicated their interest in the river segment within the County and requested DCR evaluate it to determine if it qualifies for inclusion into the Virginia Scenic Rivers System.

The Scenic Rivers Act, found in Title 10.1, Chapter 4, Sections 10.1-400 through 10.1-418.1 of the *Code of Virginia*, was enacted in 1970 as one means of protecting the Commonwealth's scenic rivers and their immediate environs. In order to be eligible for scenic river designation, a river, or section thereof, must contain substantial natural, scenic, recreational and historical attributes. At the request of the locality DCR does an evaluation and writes a report documenting these attributes. Since the passage of the Act, nineteen (19) river segments, totaling over 436 miles, have received scenic river designation.

Scenic river evaluations involve a map survey, a related literature review and a field study to validate existing land use information and rank the river according to the relative uniqueness or quality. Each river, or river segment, is evaluated on twelve (12) different factors or criteria, which were established to provide a uniform gage by which all studied rivers are measured. Field evaluations include actually canoeing or boating the stretch of river or river being evaluated and rating the characteristics of the resource. The evaluation criteria are: River Corridor Vegetation, Riverbed and/or River Flow Modifications, Human Development of Visual Corridor, Historic Features, Landscape, Quality of Fishery, Special Natural Fauna, Water Quality, Parallel Roads, Crossings, and Special Features Affecting River Aesthetics. A summary of the evaluation results is included in Section IV. Environmental Analysis.

The Act instructs the DCR to conduct "studies of rivers or sections of rivers to be considered for designation" and to "recommend to the Governor and to the General Assembly rivers or sections thereof to be considered for designation as scenic rivers." This report is a fulfillment of this statutory directive.

A. Benefits of Designation

The Virginia Scenic River designation would accomplish the following:

it requires the Federal Energy Commission (FERC) to consider the impact of proposed hydropower or related projects on a designated scenic river using the scenic river report developed in the qualification process, it requires all state agencies to consider visual, natural and recreational values of a scenic river in their planning and permitting process (section 10.1-402), it gives riparian landowners, local citizens and local governments a greater voice in the planning and implementation of federal and state projects that might affect the river (section 10.1-406), it requires authorization by the General Assembly for the construction, operation and/or maintenance of any structure, such as a dam, that will impeded the natural flow of a scenic river (Section 10.1-407), and it allows riparian landowners to continue using their land as they did before designation, except for the section 10.1-407 provision (section 10.1-408).

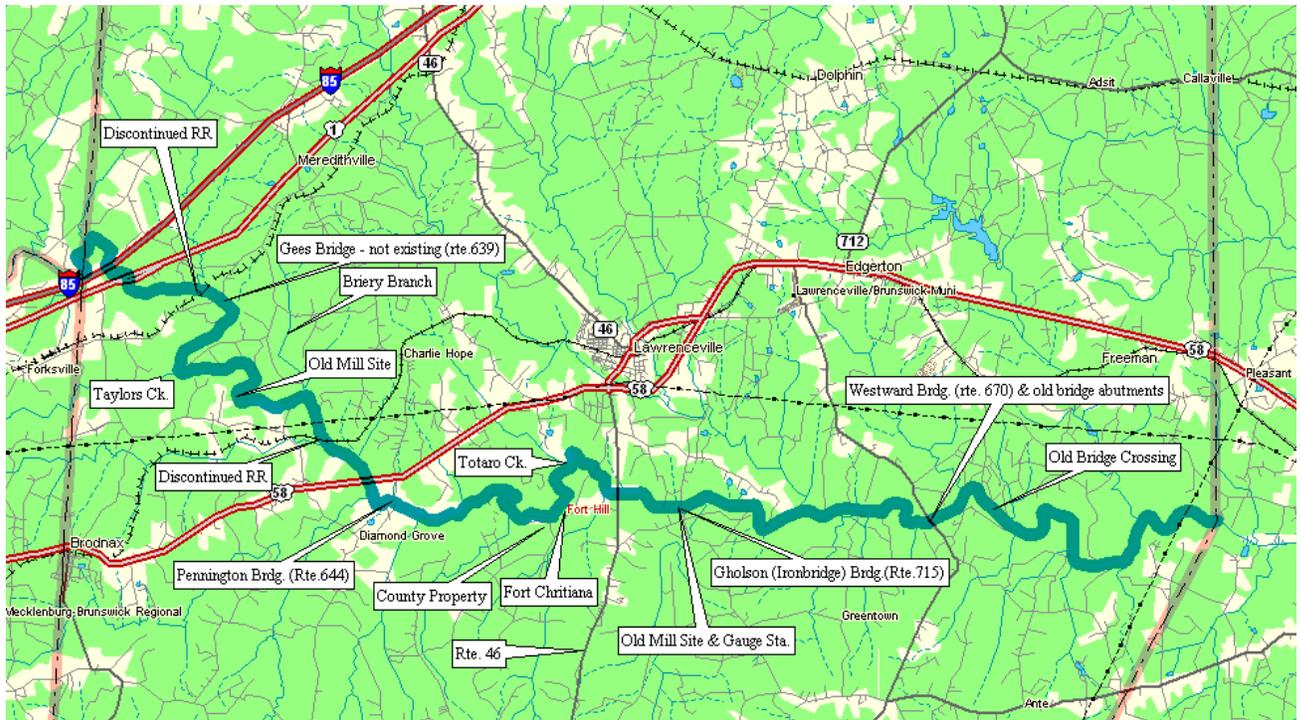
II. SUMMARY AND FINDINGS

The Meherrin River originates in Lunenburg and Mecklenburg Counties at the confluence of the South and North Meherrin Rivers and generally flows southeast, emptying into the Chowan River and then into Albemarle Sound in North Carolina. For the purposes of this report, the focus will be upon the section that spans from the Mecklenburg/Lunenburg and Brunswick County Lines on the west to the Greenville/Brunswick County Line on the east.

An evaluation by DCR indicates that the entire 35-mile section of the Meherrin River in Brunswick County is eligible for inclusion into the Virginia Scenic Rivers System and recommends that it be designated as a Virginia Scenic River. It is further recommended that DCR be the administering agency.

III. CORRIDOR MAP

Not to Scale



IV. ENVIRONMENTAL ANALYSIS

In order to determine whether this segment of the Meherrin River was eligible for scenic river designation, personnel from the Division of Planning and Recreation Resources of the Department of Conservation and Recreation (DCR) conducted an analysis of the river corridor. Staff and interested citizens on June 20 and 21, 2005, conducted a field investigation. Following is a description of the qualities and conditions of the resource that makes it a candidate for the Virginia Scenic Rivers System.

A. River Corridor Vegetation

The Meherrin River meanders through a predominantly forested corridor accented by stone cliffs and open pastures. The agriculture along the corridor is primarily timber and cattle with some buffer between the fields and the water's edge. Many of the buffers are less than the recommended 100 feet for water quality.

Streamside vegetation is prevalent throughout the corridor with overhanging branches providing plenty of shade, especially in the western section of the study area. In many spots, large downed trees have fallen in the river, primarily from Hurricane Isabel in 2002, and left the banks exposed, eroded and un-vegetated. Most of the trees line the banks with a few crossing to create minor obstructions.



Figure 1 Downed trees from Hurricane Isabel

Vegetation along the corridor is generally made up of Virginia deciduous and Piedmont/coastal plain forest complexes, with a few areas of mesic forest communities. Few evergreen trees are found near the river, though mountain laurel is scattered along many river sections. The canopy tends to be a mixture of mesophytic trees such as American beech, southern sugar maple, white ash, tulip tree, and oak. Understory trees may include hop hornbeam, eastern redbud, and paw-paw. The shrub layer is typically well developed. The herb layer is dense and very diverse with black bugbane, beggar lice, horse-blam, common eastern brome grass, and many other species often represented. Basic mesic forest communities are threatened by logging, invasion by exotic species, and infestations of the gypsy moth.

Primarily the conifers seen along the river were loblolly pines in tree farms. Some recent clear cuts, along with pastures of low herbaceous plants, create open views beyond the riverbanks. Forested and shrub wetlands introduce more plant variety including tupelo and mallow. Black walnut is also present in a few locations.

Except for the downed trees, the vegetation along the corridor provides visually interesting views with a variety of forms, textures, sizes and colors. The number of downed trees, especially in the more western reaches of the river, is massive. Many of these trees could interfere with boating and water flow for the next twenty (20) years; though the flash flood character of the river may shorten that time. Reestablishment of the banks will take at least that long, as the sandy characteristics of the soil create a challenge for vegetative establishment. This variety provides year-round changes in the cover and 'views' from and along the river. Scenery is especially attractive in the fall when the varieties of vegetative types show individual colors.

In the western length of the corridor additional interest is added with a population of *Collinsonia verticillata* (whorled horse balm, G3/S1/NL/NL), a state rare plant. Whorled horse-balm is a rare perennial herb that blooms from June to July. This plant inhabits rich woodlands ranging from moist to dry oak forests over mafic or calcareous rocks. Whorled horse-balm is currently known from two locations in Virginia's piedmont.

B. Riverbed and/or River Flow Modifications

The river section studied is a free flowing, meandering river with some gravel bars and downed trees creating minor obstructions for boaters. Located in a narrow valley trough that traverses the surrounding tableland with occasional views, the river flows through a series of narrows separated by coves of gentler water. Several old mill sites can be seen along the corridor; none interfere with boating (see more in Section D. Historic Features). Naturally occurring rock ledges and outcrops add visual and paddling interest to the journey.

There was one major boating obstruction at the Route 644 bridge, where a huge logjam created a need to portage. Locals indicated that this bridge catches a lot of debris, due to its low height, and that periodically VDOT removes the debris. In discussions with VDOT, that happens when the water is up high enough for a long enough period to allow

access from the bridge and then the debris is lifted over the bridge and deposited on the downstream side to float farther downstream.



Figure 2 Logjam at the Route 644, Pennington Bridge 6/05

About nine miles up-stream from the study area is a dam of approximately three feet in height. This dam does not have any impact on the river flow or characteristics. There is also a dam about seven miles down stream from the study area in Emporia, which has only limited impact on the flow of the western most section of the study area. The dam at Route 636 affects anadromous migrations little as it is too far upstream to impede spawning runs. The dam at Emporia nearly blocks all anadromous runs. Gizzard shad are nearly the only anadromous species found above the dam. Very few striped bass, American shad, hickory shad, alewives or blueback herring are found above the dam despite a fish lift that was installed a few years back. Few anadromous species use the fish lift for one reason or another, even though other species have been seen in the lift.

C. Human Development of Visual Corridor

The Meherrin River corridor is devoid of a lot of human development. Less than a dozen houses or buildings can be seen from the river for the entire length in Brunswick County. Occasionally an old fishing or hunting site is seen along the corridor, though few and far between. Human activity is evident on sites that have been cleared for timber and those being managed for cattle. Most of these sites have adequate, or appropriate, buffers protecting the riverbanks. Other human interventions show up as bridges and utility line crossings (see Section J. Crossings).

D. Historic Features

A number of historic sites are located along the Meherrin River, including two of national significance, according to the Department of Historic Resources. The sites on the National Register of Historic Places (NRHP) are: 1. Gholson Bridge, also called Iron Bridge, and 2. Fort Christianna. Each of these sites is briefly described below.

1. Gholson Bridge as labeled on the USGS maps is on Route 715 and is known locally as the Iron Bridge. The Pratt through truss bridge was built in 1884 by the Wrought Iron Bridge Company and is listed on the National Register of Historic Places. Near the bridge is an old mill site.



Figure 3 Iron Bridge Road, Route 715

2. Fort Christanna is on the Meherrin River just west of the Christanna Highway, Route 46, crossing on Fort Hill Road. This site is an architectural district recognized by the Virginia Historic Landmarks and National Register of Historic Places. It include two (2) fort sites. It is the first foothold of the white man in what is now Brunswick County, Virginia, and it was erected in 1714 during Alexander Spotswood's administration as Royal Governor. In August 1714, by authority of the General Assembly, Governor Spotswood established Fort Christanna on the rising ground above the banks of the southside of the Meherrin River. The fort was named in honor of Christ and Queen Anne, the English Queen.

Establishment of Fort Christanna was to provide military protection for the colonists and the ravaged Indian tribes of the area, to educate and 'Christianize' the Indians, and to develop commerce with the Indians to supply Williamsburg. 'Governor Spotswood appointed the Reverend Charles Griffin as schoolmaster to educate and Christianize the Indian children in the first Christian Indian School in Virginia.'¹

Another interesting fact is that the Meherrin River for many years was a water highway for the Native Indians. They came to trade with the settlers and share information. Though the river is not big it could accommodate small craft and was highly used. Along this route were many Native American sites, some old mills and fords, and a large plantation, Elleslee, which is also on the national register and is still intact.

E. Landscape

The Meherrin River flows through the Piedmont Plateau. It is distinguished from some of the other piedmont rivers by not having the transitional fall-line to the coastal plain. The subtle fall-line, which is near Emporia, is under the lake behind the Emporia Dam. As one floats from the Lunenburg County Line, intricate meanders take one by some surprising rock outcroppings and rock ledges.

¹ Contributed by: Van Doyle, educator of Virginia History and citizen of Brunswick County.



Figure 4 Typical rock outcrops

Few views outside of the river trough are afforded anywhere along the extent due to steep cut banks. Occasionally a pasture or logged area provides longer views out of the river trough and allows sunlight to come into the river channel. Sweet coves and side creeks catch one's eye, offering respite from the naturally vegetated banks, and the curving alignment of the river keeps the experience fresh and interesting.



Figure 5 Side Creek – typical



Figure 6 Meanders along the river corridor

Sand bars created by the meandering and side creeks show the amount of silt flowing in the river. These bars can be natural stopping places along the route.



Figure 7 Typical sand bar

The landscape is moderately diverse containing a variety of interesting natural features, especially in the western portion of the river study section. Due to the trough-like aspects of the river and vegetative cover, almost all of the views along the river are limited to short and intimate views of less than a quarter of a mile. The longest views are down the river and extend up to a half-mile.

F. Quality of Fishery

The Meherrin River has a wide variety of fish species found from the headwaters in the Piedmont region of Virginia to the North Carolina line south of Emporia. Many non-game and game species are found throughout the river system. However, due to inaccessibility, its small size and fair water quality, the Meherrin does not support heavy sport fishing. There are no health advisory restrictions for fish from the River.

Some of the "marquee" species, which can help place the Meherrin on the State Scenic Rivers List, include American shad, hickory shad, alewives, blueback herring and striped bass. Smallmouth bass, largemouth bass and many sunfish species are also widely targeted by fishermen. These species probably influence the fishing pressure more so than most of the other game species found in the system. The Flathead Bullhead is also found in the Meherrin River, the only site within Virginia. In addition, the federal species of concern/state special concern Roanoke bass (*Ambloplites cavifrons* G3/S3/SC) and federal species of concern Roanoke hog sucker (*Hypentelium roanokense*) have been documented in the river.

The westernmost section of this project is designated as a Threatened and Endangered Species Water. This designation is due to the documented occurrences of federal species of concern/ state threatened Atlantic Pigtoe (*Fusconaia masoni* G2/S2/LT)². See the complete list from the Department of Game and Inland Fisheries (DGIF) appendix.

G. Special Natural Fauna

A number of factors combine to create an environment for supporting a diversity of wildlife species in the area. These include the presence of water – the river, the rural nature of the area, the mixture of forest and agricultural lands and the extensive edge effects that are created between the different land types and uses. Per the Federal Fish and Wildlife website, the Meherrin River has a moderate rating for abundance of fish and wildlife.

Expected species of some frequency along the river include deer, turkey, rabbit and quail. Other species expected along the corridor include diverse populations of small mammals, amphibians, reptiles and insects. A variety of bird species are also found in the corridor including a moderate level of water-associated fowl, such as redtail hawks, blue heron, wood ducks and kingfishers. Department of Game and Inland Fisheries (DGIF) identified Bachman's Sparrow (*Aimophila aestivalis*) in the area, which is a federal species of concern and state threatened species. See the complete DGIF list in the appendix.

The Natural Heritage Program of the Department of Conservation and Recreation utilizes Stream Conservation Units (SCUs) to identify stream reaches that contain aquatic natural heritage resources, including two miles upstream and one mile downstream of documented occurrences, and all tributaries within this reach. SCUs also have a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain. The Meherrin River- Shining Creek SCU has a biodiversity ranking of B5, which represents a site of general significance. The natural heritage resource associated with this site is the *Lampsilis cariosa*, Yellow Lampmussel; rated G3G4/S2/NL/SC and averaging about 70 mm in length but which can reach a length of 130 mm (Johnson, 1970). The Yellow Lampmussel is found in larger streams and rivers where good currents exist over a sand and gravel substrate and in small creeks and ponds. This species is present in the Potomac, York, and Chowan river basins. Considered good

² See Appendix for Species Ranking definitions per the Natural Heritage Division of DCR.

indicators of the health of aquatic ecosystems, freshwater mussels are dependent on good water quality, good physical habitat conditions, and an environment that will support populations of host fish species (Williams et al., 1993). Because mussels are sedentary organisms, they are sensitive to water quality degradation related to increased sedimentation and pollution. They are also sensitive to habitat destruction through dam construction, channelization dredging, and the invasion of exotic mollusk species.

H. Water Quality

The water quality of the Meherrin River appears to be fair with no visible pollution. It is generally a turbid river, which becomes extremely muddy after rains. The river is known for its flash flooding and consequently there is little development along its banks. The buffers along the banks, which are in place for over 90% of its reach in Brunswick County, help control the common effects of stormwater run-off. The mean water temperature ranges from 13.0 C to 14.6 C. The Virginia Department of Health has no health hazard advisories for fish consumption on the Meherrin. In this section of the river there are no sewage treatment facilities that flow directly into the Meherrin River. There are four facilities on tributaries that flow into this section of the river.

According to the Department of Environmental Quality (DEQ), there is no indication of toxic pollution of the river. This is to be expected, as there are no major industries along the river. However, DEQ states that from the confluence of Taylors Creek and the Meherrin River to Reedy Creek, recreational use is not supported due to levels of fecal coliform bacteria that exceed state water quality standards. Observations on the river inspection noted several locations where cattle were allowed to wander into the river. Several creeks that feed the river, Briery, Great, Shining, Genito, and Roses Creeks, also do not support recreational use for the same reason. However, each is slated by DEQ for study under the new Total Maximum Daily Load (TMDL) program.

I. Parallel Roads

No parallel roads within a half-mile of either side of the Meherrin River are present for the entire study area.

J. Crossings

There are a number of crossings in the entire 35-mile length of the study area. Most are concentrated on the western portion of the study area. Roads that cross the river include Interstate Highway 85, U.S. Highways 1 and 58, and Virginia Roads 46, 644, 715 and 670. Due to the meandering of the river, the visual impact of each is limited.

There are also two abandoned railway crossings, which are not very evident since there are no bridges on either line. Other crossings include some small wire and underground pipe crossings that have little impact. The only large crossing impacts, out side of the bridges, are two major transmission lines and a large waterline in the same alignment as

one of the transmission lines. All of the impact from these is short lived due to the meandering aspects of the corridor.

K. Special Features Affecting the Aesthetics

The river has an interesting aesthetic form due to a variety of natural features. Though not a river of great gradient change, there are some islands and gavel bars, riffles and class-one rapids along the corridor. Different rock formations, outcrops with moss covering and rounded boulders create a sense of anticipation and wonder along the corridor.



Figure 8 Smooth rounded boulders contrast other formations along the river

The largest bluff along the corridor is almost 100 feet high and not clearly visible during leaf-out. However, most of the bluffs range in height from 15 to 60 feet, adding interest along the corridor.

Forest cover interrupted by crossings and thinned by pasture edges creates visual and vegetative diversity along the entire corridor.

The river corridor itself contains several large and small bends, or meanders, resulting in the creation of interesting visual perspectives and the anticipation of discovering what views or experiences may be ‘just around the bend.’ Also areas of ripples, benches of gravel, fallen trees and stretches of flat water all contribute to an interesting trip down the

river. These areas of interest are fewer and farther between below Western Bridge at Route 670.

Manmade features, like old dams and mills, add some interest from a cultural perspective. Fort Christianna is one of several sites that is being planned for development to highlight the history of the region and add an interesting stop along a Meherrin River trip.

V. LAND USE AND OWNERSHIP

Land use in the study corridor is primarily forest with scattered agriculture and very few residences. Agriculture use is mostly in the form of pasture and forest farms. Evidence of timber harvests is evident throughout the entire corridor and substantiated by Brunswick County being the largest timber producer in the Commonwealth.

Currently there is only one concentrated development, about 4-6 houses, located approximately two miles west of the Greenville/Brunswick County line and east of the Western Bridge. Three other areas along the river are planned for High/ Medium Density Single Family Residential. One is off Fleshood Lane around Mile 23, another is on the south side of the river at the US Route 1 crossing, and the final one is along Diamond Ferry Road on the north side of the river. A small commercial area is proposed for this area as well. None of the proposed development is anticipated to detract from the scenic value of the river corridor.

Over 100 private owners in the form of small farms and scattered home sites hold most of the land along the river corridor. There is some public land adjacent to the river near Fort Christianna. Lumber company ownership accounts for about 20 –25% of the land ownership along the river and about 15% of the owners. There are also three (3) subdivisions on 3-6 acre lots with river access.

There are also several large parcels that either are more than 600 acres, or could be combined to produce a tract of more than 600 acres. It is our understanding that there is some talk in the community about a future state park in the county. These holdings could be a possibility if the owners are willing sellers.

VI. CONCLUSIONS AND RECOMMENDATIONS

The Department of Conservation and Recreation concludes that the Meherrin River in Brunswick County qualifies for inclusion in the Virginia Scenic River System. Scenic River Designation is warranted because of the aesthetic qualities of the river section, its environs, the unique flora and fauna, and its historic setting.

Flowing through largely agricultural and forested land, this attractive river segment possesses a number of interesting aesthetic features including instream rock formations, several vegetated islands, sections of riffles, and a meandering alignment with interesting and inviting views downriver. The adjacent landscape consists of interesting natural elements, few man-made features, and variations in terrain and vegetation. Human development in the river corridor is limited, with some agriculture and very few residences.

Besides the natural beauty of the river setting, the Meherrin River has a long history of serving as a highway for trade between the settlers and the Indians. The national register sites show old and new transportation features and give a hint of the changes over time.

This section of the Meherrin River, a warm water river, currently is a turbid stream with moderate water quality. The non-support of recreational use due to fecal coliform (from the confluence of Taylors Creek and the Meherrin River to Reedy Creek), is a limiting factor to designation. However, as more and more farms convert to timber and fence cattle out of the river, it is anticipated that those warnings will be lifted. The presence of unique flora and fauna along the Brunswick County section of the Meherrin River and its reaches add much to the value of this corridor as a scenic river.

Considering all the aspects of the Brunswick section of the Meherrin River, it is recommended as a good candidate for Virginia Scenic River designation.

It is recommended that:

1. The Meherrin River between the Brunswick/ Mecklenburg/ Lunenburg County Lines to the Brunswick/ Greenville County Lines, a distance of approximately 37 miles, be recommended for Virginia Scenic River Designation;
2. The Department of Conservation and Recreation should be appointed the Administering Agency;
3. The duties of the state Scenic River Advisory Board, appointed by the Governor, are to advise the Administering Agency of any federal, state or local plans to construct facilities which would alter or destroy the natural, scenic, historic, or recreational values which cause the river to qualify for designation.

VII. CONSERVATION PLAN

There are a variety of elements to the conservation plan for the Meherrin River. These elements call for a minimum effort and specific actions on the part of the General Assembly, local and state units of government, and individual and riparian landowners.

Legislation establishing Virginia Scenic River designation for the section of the Meherrin River under consideration is the first element that must be implemented. In addition to clearly expressing the policy intent of the Commonwealth with regard to protection and conservation of the river, designation will focus attention on the river as a natural resource of statewide significance. The increased attention will help ensure a greater scrutiny of plans or proposals that have the potential to significantly alter or destroy those resource qualities that make the river worthy of designation. The State Scenic River Advisory Board will give local residents an avenue for formal input into decisions that would impact the river.

A second element of the Conservation Plan involves the local government. Land use plans should reflect citizens' recognition, appreciation and concern for the river and the valuable role it plays in their community's quality of life. Such plans should be aimed in part at protecting the river and its environs from potential development, or at least make sure that the development that does occur utilizes low impact development strategies as much as possible.

The final element of the Conservation Plan is the continued individual stewardship of local and riparian landowners. In general, this stewardship, along with the unique qualities of the river, has been good over the years. If not for this stewardship, the river might not still possess the characteristics necessary to qualify it for inclusion in the Virginia Scenic River System. Through continued stewardship efforts, the scenic and natural character of the river can be protected.

Action by the General Assembly to designate the section of the Meherrin River and the carefully coordinated efforts of Brunswick County should combine to protect the natural and scenic qualities of the recommended section of the Meherrin River for the enjoyment of future generations. Proposed Legislation is provided in the Appendix.

VIII. ANTICIPATED COST OF DESIGNATION

The only anticipated direct costs as a result of the designation will be those incurred by the Department of Conservation and Recreation (DCR) as a result of its duties as administrator of the river. At present, these costs are estimated to be in the range of \$2,000 per year.

IX. AGENCY COMMENTS/RESOLUTIONS

A draft report was circulated for review among the DCR Divisions, other state agencies, Brunswick County and The Brunswick County/Lake Gaston Tourism Association, Inc. Their comments and any support documents are included in the Appendix of this report.

X. APPENDIX

- A. Species Ranking definitions of DCR Natural Heritage
- B. Department of Game and inland Fisheries List
- C. Letters and other comment and support documents
- D. Proposed Legislation

A. Species Ranking definitions of DCR Natural Heritage

B. Department of Game and inland Fisheries List

C. Letters and other comment and support documents

D. Proposed Legislation

Proposed Legislation for the scenic river designation of the Meherrin River in Brunswick County

The entire Meherrin River in Brunswick County, a distance of approximately 37 miles, is hereby designated a component of the Virginia Scenic Rivers System.