REPORT OF THE

RAPPAHANNOCK RIVER BASIN STUDY COMMISSION

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

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Middle Peninsula Planning District Commission

Joyce Bradford, Executive Director
Northern Neck Planning District Commission

Stephen Manster, Executive Director
Rappahannock Area Development Commission

Gary Christie, Executive Director
Rappahannock-Rapidan Planning District Commission

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Pursuant to SJR 92 (1996) and SJR 270 (1997)
to

The Honorable James Gilmore, Governor
and
the General Assembly of Virginia
Richmond, Virginia

I. AUTHORIZATION FOR THE STUDY

The 1996 Session of the General Assembly passed Senate Joint Resolution 92 (SJR 92), patroned by Senator R. Edward Houck, creating a special Rappahannock River Basin study panel which came to be known as the Rappahannock River Basin Study Commission (the "Commission" or RRBSC). (Appendix 1) Reasons expressed in SJR 92 for creation of the panel include the fact that the basin is characterized by areas of rapid growth and is linked by one of the Commonwealth's cleanest and most scenic rivers. The resolution also recognizes that activities in one part of the basin affect other parts of the basin because of their connection through the Rappahannock River and that local governing bodies regularly face decisions that can impact other localities. It also notes that there is a need for the Commonwealth and each of the Rappahannock River Basin localities to discuss methods to promote regional planning and coordination. To accomplish this, SJR 92 specifically directed the RRBSC to "examine, evaluate, and make recommendations on the potential structures and goals of a mechanism to address coordination, communication and strategic planning on issues of [Rappahannock River] basin-wide significance."

Following the panel's productive efforts of 1996, the 1997 Session of the General Assembly passed Senate Joint Resolution 270 continuing the panel's efforts for an additional year. (Appendix 2)

II. INTRODUCTION

The study commission was made up of nine General Assembly members from the Rappahannock River Basin and one local elected government representative from each of the 15 counties in the river basin and the City of Fredericksburg. A representative of soil and water conservation districts was invited to participate with the panel's activities and efforts. The commission elected Senator R. Edward Houck as chairman and Delegate William J. Howell as vice chairman.

A. THE RAPPAHANNOCK RIVER BASIN STUDY COMMISSION'S (RRBSC) FIRST YEAR

During 1996, the commission met four times: twice in Fredericksburg, on June 19 at the Rappahannock Regional Library and on August 21 at the Walker Grant Middle School; once on October 30 at The Tides Inn in Irvington near the river's confluence with the Chesapeake Bay; and once near the river's headwaters at the 4-H Center outside of Front Royal on December 2. In addition to the business meetings, a public hearing was held following the August 21 meeting.

During its first year, the RRBSC received briefings from the following:

1. The basin's four Planning District Commissions on the demographics and growth patterns of the geographic areas for which they have responsibilities;
2. Legislative Services staff on an overview of the laws affecting the use of the Rappahannock River and its resources; other efforts organized along basin or watershed lines, including a summary of common elements of structures for basin and watershed-wide organizations; selected previous studies relating to the Rappahannock River; and legislation carried over from the 1996 Session of the General Assembly relevant to the panel's efforts;
3. The Secretary of Natural Resources and her staff on the development of tributary strategies;
4. The Department of Conservation and Recreation on Virginia's Scenic River Program;
5. The Dragon Run Committee on its watershed-based coordination, planning and protection efforts; and
6. Representatives of the Rappahannock River Watershed Committee on the Rappahannock River Watershed Plan.

In addition to issues raised by the briefings, the panel's discussions focused on:

1. Objectives for the panel and the mechanism for communication and coordination that may grow from the panel's efforts;
2. The uses, concerns and efforts made relative to the river;
3. The importance of the river from an economic standpoint;
4. Public comments; and
5. The need for a continuing basin panel.

At its first meeting, the panel identified the following eight objectives as being important to its efforts and those of any continuing body that may be formed:

1. To determine the interdependent needs of and benefits to the localities of the basin of the creation of a Rappahannock River Basin Commission;

2. To examine the efforts of various entities relative to the river, including state and local governments, regional agencies, organizations, businesses and individuals and to recommend strategies to increase the efficiency of those efforts;

3. To document the various uses that the people of the basin make of the river, the impact of the uses of the river, and the importance of the river to the region and to the Commonwealth;

4. To examine, discuss, and evaluate the concerns of various entities with an interest in the river;

5. To research and consider the applicability of methods to increase communication and coordination among the entities concerned with a major river that have been used in other areas;

6. To recommend the facilitation of meaningful citizen involvement in the discussion of basin issues; and

7. To identify and recommend means of improving communication between state agencies and local governments on issues and policies of concern to local governments within the basin.

Throughout its first year, the commission sought information about and discussed issues necessary to fulfilling its purpose and meeting its objectives. One of the successes of the first year of the study was the bringing together of representatives from throughout the basin, allowing them to learn more about each other's localities and providing an opportunity to discuss issues. It was an important step for all localities to sit down together and agree that (i) there are problems with the river, (ii) all basin localities are connected through the river, (iii) one locality's actions can influence the condition of the river and other localities' abilities to utilize the river's resources, and (iv) that there is a need for a continuing body to address river-related concerns.

The panel members, based on a year of briefings, discussions, and public comment, were unanimous in their opinion that there should be a basin-wide communication, coordination, and planning structure. They did not believe, however, that they were in a position to recommend what that structure should be. The members unanimously agreed that the panel should continue for an additional year and they endorsed a resolution recommending continuation of the panel that was introduced during the 1997 Session of the General Assembly as Senate Joint Resolution 270.

B. THE RAPPAHANNOCK RIVER BASIN STUDY COMMISSION'S (RRBSC) SECOND YEAR

The RRBSC met five times during 1997: on April 30 at the firehouse in Tappahannock; on July 2 at the Green County Transit Company in Standardsville; on August 20 at Walker Grant Middle School in Fredericksburg; on October 1 at the Northern Neck Electric Cooperative in Warsaw; and on December 3 in Richmond. In addition to conducting business meetings and visiting important basin resources, the RRBSC invited members of the public to make comments at each meeting. The August 20 meeting was particularly significant because it brought over 150 local government officials and citizens together to learn more about the basin, the commission's efforts, and potential structures for a continuing Rappahannock River Basin Commission.

During 1997, the panel was briefed on the following:

1. Updates on the Rappahannock River Tributary strategy;
2. The Water Quality Management Plan for the river;
3. Local efforts related to the RRBSCs efforts;
4. The American Heritage River Initiative;
5. Pfiesteria;
6. Fish passage at Embrey Dam;
7. Riparian buffers; and
8. A draft framework for a potential structure for a continuing Rappahannock River Basin Commission.

The Commission also discussed the responsibilities of all who reside, work and impact the quality of the Rappahannock River and produced a resolution embodying their thoughts. (Appendix 3) The main focus during 1997 was the completion of the needed structure and mechanism for creating a continuing commission. Following the review of numerous issues regarding the structure and mechanism, the Commission proposed legislation to create a mechanism whereby the local governments of the basin could form a continuing river basin commission. Introduced as Senate Bill 598, that mechanism is now codified as Chapter 5.3 (§§ 62.1-69.25 through 62.1-69.33) of Title 62.1 of the Code of Virginia. (Appendix 4)

III. BRIEFINGS

A. PLANNING DISTRICT COMMISSIONS ON DEMOGRAPHICS AND GROWTH IN THE BASIN (JUNE 19, 1996)

1. Rappahannock-Rapidan Planning District Commission (RRPDC)

Gary Christie, RRPDC executive director, noted that this PDC represents the upper region of the river and encompasses Rappahannock, Fauquier, Madison, Orange and Culpeper Counties. The region, according to Christie, is experiencing a

steady population growth resulting in residential and commercial development and the need for more infrastructure to accommodate it. This infrastructure may add to the approximately 22 existing major point source discharges into the river (with the largest being the City of Culpeper). In an effort to counter the effects of growth and land use changes, Culpeper County has acquired a nonpoint source pollution grant to identify allowable total maximum daily pollution loads and to select and implement best management practices (BMPs) to reduce the amount of nonpoint pollution reaching the river.

Mr. Christie noted three situations that may impact growth in the PDC's region. Those are: (i) the Town of Orange's planned extension of utilities into an industrial park; (ii) the 1997 planned closure of Vint Hill Army Base in Fauquier County; and (iii) growing interest in the capacity of Fauquier County's upgraded wastewater facility. In conclusion, Christie noted that the region expects to continue seeing steady development pressures with more and more demand being placed on the river.

2. Rappahannock Area Development Commission (RADCO)

Stephen Manster, executive director of RADCO, noted that the commission serves Stafford, Spotsylvania, King George, and Caroline Counties, and the City of Fredericksburg. He added that the region has been the fastest growing in the state over the last 15 years with most of the growth occurring in the Rappahannock Basin portion of the PDC and that major additional development is planned. As examples of area growth, he highlighted that in 1995 the region had, even with the construction of 2,600 new housing units, one of its slowest new housing growths in the past 10 years. Moreover, between 1990 and 1993, the region was the state's fastest growing area in job creation, with most of the growth occurring in the Rappahannock Basin. It was noted that although about 40 percent of the workforce commutes to the north out of the basin, between 1990 and 1993, the region was the state's fastest growing in job creation, with most of the growth occurring in the Rappahannock Basin.

Growth has had a significant impact on infrastructure needs, particularly waste water treatment, as exemplified by Stafford County's new sewage treatment plant which has a four million gallons per day (MGD) capacity. In addition, Fredericksburg has increased capacity (by one MGD) at a plant that currently discharges 2.5 MGD, and Spotsylvania County requires two treatment plants with a combined 10 MGD capacity. In addition, King George and Caroline Counties are planning to improve and consolidate a number of smaller treatment plants.

3. Northern Neck Planning District Commission (NNPDC)

According to the executive director, Joyce Bradford, the NNPDC lies between the Potomac River, the Rappahannock River and the Chesapeake Bay, and it is comprised of Lancaster, Northumberland, Richmond and Westmoreland Counties.

The area's clean environment, low tax rate and proximity to water bodies has made it attractive for development and contributed to the region's 80 percent population growth, to just over 44,000 between 1980 and 1990. Ms. Bradford added that the Northern Neck community is a self-supporting one and that most incomes are obtained from agriculture and fishing, while retail trades and manufacturing make up about 14 percent of the population's work efforts.

The area, according to Ms. Bradford, is productive because of its relatively clean environment which has been fostered through the locality's leadership in adopting and implementing the Chesapeake Bay Preservation Act. She noted that local governments are interested in protecting the environment and are taking proactive measures to ensure protection that is balanced with growth. Richmond and Westmoreland Counties have the smallest residential development along the river, although Westmoreland is experiencing a great deal of pressure. Ms. Bradford concluded by stating that her region recognizes the need for continued planning efforts particularly because the activities of each locality along the river impacts all others.

4. Middle Peninsula Planning District Commission (MPPDC)

According to MPPDC executive director, Dan Kavanagh, this region, which includes Essex, Gloucester, King and Queen, King William, Mathews, and Middlesex Counties has experienced a 65 percent population growth since 1970. A good percentage of the growth has occurred in Essex and Middlesex Counties, which both lie along the river. Prior to 1970, both counties were very rural with economies based on natural resources, but this has changed significantly to a focus on tourism, real estate development and, particularly in Essex County, commercial and industrial development. The river has played a central role in this growth.

B. THE RAPPAHANNOCK RIVER WATERSHED PLAN (JUNE 19 and AUGUST 21, 1996)

Over the course of its deliberations, the panel heard presentations on the Rappahannock River Watershed Plan by H. William Greenup, Mayor of Fredericksburg, and by Mr. Erik Nelson, Senior Planner for the City of Fredericksburg.

Mayor Greenup provided some history of the city's land holdings along the river noting that since 1969 Fredericksburg has purchased approximately 5,000 acres of land along the Rappahannock and Rapidan rivers. Growth and development in the city and the counties where these holdings lie has lead to encroachment and increased public use over the last 20 years. Mayor Greenup added that these lands are important to the protection of water quality and, because the Rappahannock is its major drinking water source, the city began regulating the use of the area in the early 1980's and developed a "Watershed Management Policy." The objective of the policy is to "maintain [the] lands along

the river in their natural state, and to protect the overall water quality of the Rappahannock."

In 1992, as a follow up to the Watershed Management Policy, the city brought representatives from area jurisdictions, state and federal agencies, nonprofit organizations, and interested citizens together, forming the Rappahannock River Watershed Planning Group which began a dialogue on issues of mutual concern. According to Mayor Greenup, the "Rappahannock River Watershed Plan" was the result of these meetings and was seen as "a beginning of a renewed focus on the river and its immense value not only to the City of Fredericksburg but to jurisdictions located up and down stream of the city." He also noted that the plan is an effort to overcome disparity between local land use regulations and to promote the well-being of jurisdictions within the Rappahannock watershed. The plan also provides substantial information on a large portion of the river and the area it drains, including natural and cultural history, watershed public policy and management issues, water resource development issues, and recreational, educational and economic development.

Mr. Nelson advised the panel that, in August 1992, the Rappahannock River Watershed Planning Group began to identify and study river-related issues. He noted that while the group continues to seek and exchange information to protect the river resource, it has limited authority. Mr. Nelson explained how the group functions using specific river issues as examples and noting that the group focused on issues which may not have received sufficient attention in the past. For instance, rather than focusing on point sources that are already highly regulated, attention has been paid to accidental discharges from petroleum pipelines or roadway accidents. According to Mr. Nelson the need to coordinate water withdrawals from the rivers is an issue that must continue to be addressed because there are increasing amounts of wastewater being discharged into the river. Nonpoint source pollution, an issue not well regulated by the state or federal governments, is another area in need of the planning group's efforts. Therefore, the planning group will continue to identify problems and develop solutions for this area.

C. LAWS AND REGULATIONS IMPACTING THE RAPPAHANNOCK RIVER (JUNE 19, 1996)

Legislative Services staff prepared and presented a lengthy briefing packet on the variety of laws and regulations and the various state and federal agencies that relate to the river and its resources. The materials provided information on (i) the natural resources elements of the Virginia Constitution; (ii) the common law riparian doctrine; (iii) selected federal water quality laws; (iv) local governments statutory powers related to water supply; (v) state water supply-related statutes and powers; (vi) state water quality statutory provisions, including an analysis of a number of agencies' responsibilities; (vii) efforts and statutes related to the

Chesapeake Bay; and (viii) programs and statutes relating to resources management and protection. (Appendix 4)[1]

D. SELECTED PREVIOUS BASIN STUDIES (OCTOBER 30, 1996)

At the request of the commission, Legislative Services staff provided information on a number of previous studies that were mentioned by members of the panel or that were brought to the panel's attention by citizens. Specifically, they include: a series of reports on Salem Church Reservoir proposals; the 1970 Comprehensive Water Resources Plan for the Rappahannock River Basin; the 1988 Rappahannock Water Supply Plan; and the 1996 Virginia Water Quality Assessment report.

1. Salem Church Dam and Reservoir Proposals

The Salem Church Dam and Reservoir proposals recommended the placement of a dam or dams approximately five miles upstream from the City of Fredericksburg. The initial purpose of the proposal was to provide flood control and protection from an approximately 1,600 square mile drainage area. Additional proposals had multiple purposes. All of the proposals would have potentially resulted in flooding an area as far upstream as Kelly's Ford.

The Salem Church Dam proposals spawned a series of reports which provided a variety of findings and conclusions. They also provided, for a number of different periods since 1933, descriptions and analysis of: (i) the basin economy; (ii) the basin geography and demographics; (iii) the benefits and detriments of a variety of reservoir alternatives; (iv) stream flow; (v) water quality; (vi) municipal and industrial water supply needs and projections; (vii) municipal and industrial waste discharge projections; (viii) desalinization options; (ix) ground water usage; (x) wastewater recycling; (xi) water quality standards; (xii) flow regulation; (xiii) salinity control; and (xiv) fish, wildlife and recreational values in and along the rivers. Ultimately, the report found that while the dam would have provided benefits, they could not compete with the value of a natural free-flowing river.

A number of studies regarding the Salem Church Dam and Reservoir proposals have been produced. The first, a comprehensive study of the Rappahannock River Basin, was conducted by the Army Corps of Engineers in 1933 and included investigation of potential reservoir sites. A Salem Church reservoir was found to be economically feasible, but, other than maintenance of a navigation channel, the Corps' study did not recommend federal development in the basin.

Following severe flooding in 1942, the Corps updated its 1933 report. This report found that local flood protection projects were not economically feasible and that the most economical solution included the construction of a Salem Church

[1] The full text is on file with the Division of Legislative Services.

multi-purpose project. The federal Flood Control Act of 1946 subsequently authorized construction of a Salem Church Dam and Reservoir, but a 1952 preconstruction study revealed that the project, as authorized, had a marginal cost-benefit ratio and was not justified at that time.

In 1955, the U.S. Senate requested that further study be undertaken. This was partly in response to attempts to amend the 1946 project authorization to increase the dam's storage and power generating capacity. In 1966, the study was completed. It recommended modifying the previously authorized Salem Church Dam and Reservoir Project and permitting construction of a multi-purpose dam and reservoir with a downstream dam and a reservoir to regulate certain releases. The modified project was designed to provide flood control, water quality control, water supply, hydroelectric power, recreation, and fish and wildlife benefits. This modification was approved by Congress in 1968.

Also in 1968, Congress passed the Wild and Scenic Rivers Act declaring that "...the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes." The Act also established the National Wild and Scenic Rivers System.

In 1969, in line with the Wild and Scenic Rivers Act, the Secretary of the Interior directed that a study be conducted on the free-flowing values of the Rappahannock and Rapidan Rivers. In 1970, a report entitled "The Rappahannock River, Virginia, An Evaluation of Free-Flowing Values with Special Reference to the Authorized Salem Church Project," was released. The report found: (i) that segments of the Rappahannock and Rapidan Rivers and their immediate environs met the criteria for inclusion in the National Wild and Scenic Rivers System and (ii) that construction of the authorized project would destroy all free-flowing values of the portions that qualified for inclusion in the national system; and it recommended the river's preservation in a free-flowing condition until such time as public benefits accruing from impoundment of the rivers, on some basis other than needs for recreational opportunity, exceed the free-flowing benefits.

Funds for preconstruction planning of the authorized Salem Church Dam and Reservoir Project were included in the Public Works Authorizations Act of 1970. Funds were also included for a "... restudy, to be conducted concurrently with the initiation of preconstruction planning, to determine the extent to which the [Salem Church] plan can be modified to minimize any adverse effects on natural values in the area." That report found that:

a. Potential public benefits of the project were considerable;
b. Environmental impacts would be considerable; and
c. Alternative means for meeting projected demand appeared possible.

The report found that the alternative measures would permit:

a. More equitable sharing of cost with less federal expense;
b. Preservation of key portions of the Rappahannock and Rapidan Rivers and their immediate environs in a free-flowing condition; and
c. Preservation of many of the existing benefits and opportunities for future enhancement.

The study also found that:

a. The portions of the Rappahannock and Rapidan Rivers that would be inundated met the criteria for inclusion in the National Wild and Scenic Rivers System;
b. Recreational development of the free-flowing river, as a unit of a national system, combined with recreational development on the Potomac River would serve a greater proportion and a wider variety of water-oriented recreation demands of people living in the recreational market area; and
c. This [conclusion b] would take maximum advantage of existing natural resources providing unique water-oriented recreational opportunities.

In concluding, the report recommended against the authorized Salem Church Dam and Reservoir Project and proposed that any report on the project submitted to Congress should (i) contain a discussion of the free-flowing values of the Rappahannock and Rapidan Rivers; (ii) note their qualification for inclusion in the National Wild and Scenic Rivers System; and (iii) recognize that construction of the project would destroy all of these values.

2. 1970 Comprehensive Water Resource Plan for the Rappahannock River Basin

In the 1960s and the early 1970s, under the water resource planning authority provided by the General Assembly[2], the Division of Water Resources of the then Virginia Department of Conservation and Economic Development began a process of developing a report on the Rappahannock River. The purpose of the study was to (i) examine the basin in light of growth in the area, (ii) project the economy of the area to the year 2020 and (iii) determine the present and future quantitative and qualitative water needs of the area. An additional purpose was the creation of a program for development and management of the waters of the basin. The report notes that a comprehensive water resource plan is essential to sound economic growth and wise water resource management in the Rappahannock River Basin.

The six-volume report includes the following:

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[2] Va. Code § 10-17.1 (1950) now Va. Code § 62.1-44.36.

- An introduction to the basin that presents factual data on the historical, natural and economic characteristics of the major political subdivisions of the basin and presents information on water development history, navigation, geology, mineral resources, ground water, municipal and industrial water supply, recreation, agriculture and the existing power supply.

- An economic base study of the basin. The objective is to project population, industrial growth and related economic factors necessary to assess future water requirements and to provide an economic framework within which alternative solutions for water resource problems can be developed.

- A hydrologic analysis of the basin, including a study of surface water, ground water and meteorology.

- The quantitative and qualitative water resource requirements and problems in the basin.

- A presentation of water development alternatives to meet water resource requirements and problems.

- The recommended plan for water resources development and management in the Rappahannock River Basin.

The formation of a local government advisory committee appears to have been central to the development of the comprehensive plan. The report notes that:

[t]his [formation of a local government advisory committee] *is a desirable and necessary step in carrying out the* [Commonwealth's] *responsibility in water resources development planning. Effective communication between the people concerned and those who guide the formulation and development of a comprehensive water resources plan is necessary if that plan is to be successful. Such liaison can be most effectively carried out by an advisory committee with representation from political subdivisions in the Rappahannock River Basin.*[3]

[3] The advisory committee was made up of members from the counties of Caroline, Culpeper, Essex, Fauquier, Greene, King George, Lancaster, Madison, Middlesex, Orange, Rappahannock, Richmond, Spotsylvania, Stafford, Westmoreland, the City of Fredericksburg and the town of Warrenton.

The report adds that:

[t]he Rappahannock River Basin Study will embrace projections into the future as well as a discussion of current water resources problems in the area; therefore, there will be a need for a strong, active advisory committee well into the future. To carry out effectively the study of the Rappahannock River Basin, communication must be maintained with the advisory committee during the course of each development in the plan of study.

3. 1988 Rappahannock Water Supply Plan

In 1981, the General Assembly directed the State Water Control Board to "prepare plans and programs for the management of the water resources of this Commonwealth in such a manner as to encourage, promote and secure the maximum beneficial use and control thereof."[4] These advisory-only plans and programs were prepared for each major river basin of the Commonwealth, including the Rappahannock River Basin.

According to the Code of Virginia[5] each basin plan is to:

(i) estimate current water withdrawals and use for agriculture, industry, domestic use, and other significant categories of water users;
(ii) project water withdrawals and use by agriculture, industry, domestic water use, and other significant categories of water users;
(iii) estimate, for each major river and stream, the minimum instream flows necessary during drought conditions to maintain water quality and avoid permanent damage to aquatic life in streams, bays, and estuaries;
(iv) evaluate, to the extent practicable, the ability of existing subsurface and surface waters to meet current and future water uses, including minimum instream flows, during drought conditions;
(v) evaluate, in cooperation with the Virginia Department of Health and local water supply managers, the current and future capability of public water systems to provide adequate quantity and quality of water;
(vi) identify water management problems and alternative water management plans to address such problems; and
(vii) evaluate hydrologic, environmental, economic, social, legal, jurisdictional, and other aspects of each alternative management strategy identified.

In March of 1988, the State Water Control Board issued a "Rappahannock Water Supply Plan" pursuant to the law just described. Advisory committees with broad membership assisted in the formulation of the plan and in formulating recommendations. The report notes that the "main objectives of the plan are to

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[4] Va. Code § 62.1-44.38.
[5] Id.

identify water supply problems and alternative solutions to the problems, and to evaluate the adequacy of the water resources within the area to meet offstream needs through the year 2030" and that the plan "...is a water supply plan rather than a comprehensive water resources plan." "Water supply" means the provision of water for offstream use.

While the plan does not address minimum instream flow policy (because one had not yet been developed), it does quantify and project (i) water demands according to the location of the water use, (ii) the purpose for which the water is used and (iii) whether the water is supplied by a central waterworks or is self-supplied by the end user. To "facilitate the analysis of potential conflicts between up and down stream users," the plan is organized into the upper Rappahannock area and a Northern Neck area.

The three-chapter report:

- Supplies information regarding the general physical setting of the river basin (geography, geology, climatology, etc.) along with a discussion of the area's economy and demographics.

- Presents a detailed analysis of the community water systems within the river basin, arranged hierarchically, first by subarea within the basin and then by demand center within the subarea. Individual system deficit problems, alternatives and recommendations are also detailed.

- Presents a basin-wide summary, as opposed to the locality-specific systems analysis provided. It also quantifies, through the use of a water-balance methodology, the overall effects of withdrawals and consumptive uses on the water resources in the basin.

4. 1996 Virginia Water Quality Assessment

Section 305(b)[6] of the federal Clean Water Act requires the states to biennially produce a report on water quality. The report is to contain:

(A) a description of water quality of all navigable water in [the state]...*;*
(B) an analysis of the extent to which all navigable waters [of the state] *provide for the protection and propagation of a balanced population of shellfish, fish, and wildlife and allow recreational activities in and on the water;*
(C) an analysis of the extent to which the elimination of the discharge of pollutants and a level of water quality which provides for the protection and propagation of a balanced population of shellfish, fish and wildlife and allows recreational activities in and on the water, have been or will be achieved...together

[6] 33 USC 1315(b).

with recommendations as to additional action necessary to achieve such objectives and for what waters such additional action is necessary;

(D) an estimate of (i) the environmental impact, (ii) the economic and social costs necessary to achieve the [objectives of the federal Clean Water Act], *(iii) the economic and social benefits of such achievement, and (iv) an estimate of the date of such achievement; and*

(E) a description of the nature and extent of nonpoint sources of pollutants, and recommendations as to the programs which must be undertaken to control each category of such sources, including an estimate of the costs of implementing such programs.

The 1996 Water Quality Assessment report issued by Department of Environmental Quality (DEQ) to satisfy these requirements describes water quality conditions during the time period of April 1, 1993, through March 31, 1995.

The report provides statewide and basin-level information including information on surface water quality, ground water quality and state water pollution control programs. Surface water quality information includes summary data for rivers, estuaries and coastal waters, public health and aquatic life concerns, lake water quality assessments, estuary and coastal waters status and an assessment of the status of wetlands in the Commonwealth. Water pollution control program information is provided on the state's point and nonpoint control programs, cost benefit analysis and surface water monitoring.

E. EMBREY DAM (SEVERAL DATES IN 1996 AND 1997)

Senator Edward Houck lead discussions to gain support for opening a fish passage or for the complete or partial removal of the Embrey Dam, which was built in 1910 as a source for electricity and water. Although the electric plant closed many years ago, the City of Fredericksburg and Spotsylvania County has signed an agreement to build a new water treatment plant, which would make the dam obsolete. Senator Houck added that the dam had served a constructive purpose for years, but that it prohibited the migration of fish. He noted that during the 1997 session, he planned to propose a study by the Department of Game and Inland Fisheries regarding fish passage option at Embrey Dam. He also noted that the proposal had several supporters, including Senator John Warner and Congressman Herb Bateman. Senator Houck offered a copy of a sample resolution, similar to those passed by the City of Fredericksburg and by Spotsylvania and Stafford Counties, calling for a return of the Rappahannock River to its natural state. Noting that the removal of the dam would have a positive basin-wide impact, Senator Houck requested that the commission members take the proposal to their localities to have it considered for approval.

Senator Houck's resolution (SJR 296) passed the 1997 Session of the General Assembly and led to further briefings during 1997 on fish passage at Embrey Dam.

Mr. David Whitehurst, of the Department of Game and Inland Fisheries, and Mr. Tim Davey, a consultant with TIMMONS, Inc., presented updates on the feasibility study of a fish passage at the Embrey Dam. Mr. Davey explained that the firm focused on three technical alternatives to provide fish passage: (i) construction of a vertical slot fishway, (ii) breaching a portion of the dam or (iii) removal of the entire dam. TIMMONS compiled a technical decision matrix to demonstrate the capital maintenance costs of the alternatives, while the local decision matrix demonstrated the local issues gathered at various meetings. Mr. Davey related that the cost for the fish ladder alternative was assessed at $8.7 million, while complete removal of the dam was estimated to cost $7.45 million and partial removal was estimated at $7.4 million. He advised the commission that sediment removal had to be addressed as part of the partial or complete dam removal, and, therefore, an environmental analysis should be conducted to determine the feasibility of the project. He explained that silt could be removed by a slow, controlled release or by a quick release, and he added that the $4.2 million cost for removal of the silt was included in the overall cost for the dam removal.

Mr. Davey submitted that, while the dam was still considered a stable structure, the cost for safety measures to keep people off the dam increased the costs drastically. He offered that during the sediment analysis no dangerous levels of heavy metals were detected.

F. RIPARIAN BUFFERS (JULY 2, 1997)

Mr. Hal Wiggins, U.S. Army Corps of Engineers, gave presentations on riparian buffers and streambank restoration efforts and noted that they are cost-effective, water quality best management practices. He presented the benefits of riparian buffers, which included: (i) reduction of erosion; (ii) increased removal of nitrogen, phosphorus and sediment; (iii) flood control; (iv) habitat; and (v) increased property values. Mr. Wiggins stated that a minimum width of 35 feet is required for riparian buffers to work effectively in flood-prone areas and that the productivity of agricultural land is enhanced with the savings gained from reduced topsoil loss and increased streambank stability. Mr. Wiggins addressed cost-share programs available to encourage streamside buffers, stating that only a small percentage of farms had applied for cost-share programs. He briefly explained the various nutrient reduction levels achieved through the use of best management practices, explaining that the Virginia Department of Conservation and Recreation determined that removal rates were higher for buffers than other best management practices.

Mr. John Tippett, Director of the Friends of the Rappahannock, presented a video and described the positive impact of forested buffers, which help stabilize river banks and serve as flood control. He urged the commission to find incentives to offer to farmers and other riparian land owners for leaving or creating forested buffers on the river banks.

G. AMERICAN HERITAGE RIVER INITIATIVE (OCTOBER 1, 1997)

Mr. Tippett related that President Clinton, in an Executive Order, directed agencies to create an American Heritage River Initiative. He explained that localities can nominate rivers or portions of rivers to be designated by the President as one of ten final selections. The selected rivers would benefit from support of existing federal programs and special recognition, thereby allowing communities to restore and protect their river resources in a way that would integrate natural resource protection, economic development and the preservation of historic and cultural values. He requested support from the commission to nominate the Rappahannock River.

The federal role in the initiative will be based on the desires of the local sponsor requesting the designation. The role will be to coordinate and streamline access to existing federal programs to benefit the local plan put forth in the application for designation as an American Heritage River. The "River Navigator" position will only be designated at the request of the local sponsor. That position is to be a primary contact with access to high-level officials at numerous federal agencies to foster and create faster, more efficient coordination and responses. Another stated goal of the initiative is to identify ways the federal government may more efficiently provide its services and resources. During the ensuing discussion, commission members noted that they needed to discuss the issue with their respective boards and that they wanted to hear public comment on the issue as well.

H. PFIESTERIA (OCTOBER 1, 1997)

Dr. Eugene Burreson, Director for Research and Advisory Services, Virginia Institute of Marine Science of the College of William and Mary, presented an update of the research conducted on fish kills associated with Pfiesteria and Pfiesteria-like symptoms. He advised the commission that scientific studies of the Pfiesteria organism have been conducted in a laboratory for only two or three years, which was not long enough to collect a scientific data base. Dr. Burreson related that Pfiesteria was first reported in 1988, that it is a dinoflagellate animal which normally feeds on algae, and that it has been around in small numbers for many years. He explained that Pfiesteria only turned toxic in the presence of fish and that it was extremely difficult to positively identify Pfiesteria-caused symptoms and differentiate them from similar symptoms caused by other organisms. Dr. Burreson briefly explained the life-cycle of the Pfiesteria organism and noted that certain conditions, like a large concentration of fish in shallow, slow-moving water, had to be met for Pfiesteria to have a deadly affect on the fish population. He reiterated that it was difficult to distinguish Pfiesteria-caused lesions from lesions caused by other organisms. Dr. Burreson apprised the commission that the first fish kill attributed to lesions occurred in 1984. He noted that, although the exact cause was unknown, outbreaks had become a yearly occurrence during the fall in the James

and Rappahannock Rivers and that lesions had been noted coast-wide in 1984, 1985 and 1986. He related that during the recent fish catch conducted by the Department of Fisheries, 11,188 fish of 23 different species were caught and that only 40 (or 0.4 percent of the total catch) showed signs of lesions. Dr. Burreson stated that the Rappahannock River was healthy. He indicated that because Pfiesteria lesions were mostly noted on juvenile menhaden, which are normally not used for human consumption due to their oily meat, the lesions were not a health concern for consumers. Dr. Burreson submitted that Pfiesteria outbreaks and water enriched by nutrients due to fertilizer run-off were related, but that the connection did not prove a cause and effect. He noted that he would attribute Pfiesteria outbreaks to general environmental degradation, but that no single link could be proven between any one nutrient and the organism.

Dr. Burreson responded to commission members' questions stating that Pfiesteria was not a fresh water organism and was not associated with red-tide algae, although it fed on it. He stated that it was not infectious and did not accumulate in fish tissue and that, because the toxin dissipated rather quickly, it could not be directly passed from fish to fish and, therefore, it was not passed up the food chain. He noted that, although he could not say anything conclusive, he would state that the seafood was safe in the absence of fish kill. Dr. Burreson offered the theory that the toxic agent was volatile and could be inhaled, but that no conclusive proof existed. He reiterated that Pfiesteria-like lesion outbreaks mostly occurred during September and October and almost exclusively menhaden fish.

During the ensuing discussion, Senator Bolling summarized that no Pfiesteria outbreak had been identified in Virginia and that although it was important to be concerned about the disease it would be worse to overreact. The chairman noted that part of the mission of the Rappahannock River Basin Study Commission was to provide information on all issues related to the Rappahannock. The commission discussed several policy statements which could be issued regarding the Rappahannock River and Pfiesteria phenomenon. The chairman asked staff to compile the ideas that had been presented for the commission's review and action. The commission decided upon the following statement regarding Pfiesteria:

The Rappahannock River Basin Commission has received a presentation by Dr. Burreson on the Pfiesteria phenomenon. The recent media attention given to this phenomenon has raised concerns about seafood taken from the Chesapeake Bay and its tributaries. The commission has not received any information to suggest that seafood taken from the Rappahannock River and the Chesapeake Bay are in any way unsafe for human consumption. There appears to be a need for additional scientific study of the Pfiesteria-like organisms and the potential impact on human health and the environment. Therefore the commission urges the Commonwealth to continue to devote and pursue the resources necessary to fully research this phenomenon and

understand its impact on the basin and the people who depend on the Rappahannock River.

I. TRIBUTARY STRATEGIES (SEVERAL DATES IN 1996 AND 1997)

One of the major initiatives of the multi-state efforts to restore the Chesapeake Bay is a commitment to reduce the 1985 levels of nutrients flowing into the Bay and its tributaries by 40 percent by the year 2000. Part of this initiative is the commitment to the development of nutrient reduction strategies for each tributary flowing to the Bay. This commitment is contained in agreements signed by the Governors of the Commonwealths of Virginia and Pennsylvania, the State of Maryland, the Mayor of the District of Columbia, and the Administrator of the United States Environmental Protection Agency (USEPA).

The 1996 Session of the General Assembly passed legislation directing the Secretary of Natural Resources to develop tributary plans that address not only nutrient reductions, but also report on a number of other efforts relating to the restoration of the Bay.[7] Under the 1996 legislation, a plan for the Rappahannock Basin was to be completed by January 1, 1998[8]. Because of the parallels to the panel's efforts, the Secretary of Natural Resources, Becky Norton Dunlop, and her staff were invited to attend the August 21, 1997, meeting and asked to provide an explanation of tributary plans and how they may impact the Rappahannock River Basin.

The Secretary complimented the panel for working together on identifying ways to deal with the Rappahannock as a whole and she described the group as an excellent forum for discussing the Rappahannock River Tributary Strategy. She stressed that the way to ensure long-term commitment to conserve the river's natural resources and to maintain a high quality of life is for state agencies to provide information to localities and for localities to channel input and concerns to the state level.

Secretary Dunlop noted that a 40 percent reduction in nutrients has been set for the Potomac Basin, but that additional monitoring and modeling is being conducted to determine the reduction needs for the lower tributaries, including the Rappahannock. According to the Secretary, a 40 percent reduction in nutrients entering the Rappahannock may not be necessary to achieve the Chesapeake Bay

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[7] §§ 2.1-51.12 and 2.1-51.13. A central element of the nutrient-related portions of a tributary plan is a description of a combination of efforts that will reduce the amount of nutrients from both point and nonpoint sources so that the nutrient reduction goals may be met. The proper mix of efforts is a matter for study over the course of plan development, with the involvement of local government and other interested parties, to assess the needs and available mechanisms to reach needed reductions in an efficient and equitable manner. Additional consideration is given to who will conduct the necessary activities and how they will be paid for.

[8] The 1997 Session of the General Assembly extended the deadline for completion of the plan from January 1, 1998, to January 1, 1999.

Agreement goals, but that ongoing testing and modeling will provide an answer to this question.

The Secretary advised the panel that technical information and computer models, as well as input by individuals and citizen groups, were being compiled with the assistance of local governments to ensure that a nutrient reduction plan would be finalized on schedule. She noted that the Rappahannock strategy would probably differ from the Potomac strategy, mainly because more sophisticated monitoring and modeling technology was being used.

Commission members stressed that land use issues would be central to the health and future of the river and, therefore, that discussions with different localities needed to be initiated regarding their land use planning. The Secretary noted that the Allen administration was dedicated to leaving land use issues to local governments, but would utilize technical staff to assist localities in accomplishing their goals and would share the latest developments regarding such issues as storm water management with them.

Panel members encouraged the Secretary to ensure that, in the development and implementation of the strategy, the basin was looked at as a whole and not as merely individual jurisdictions and that the plan represented the needs of the future. The Secretary responded that each basin will be looked at as an integrated unit. She also recognized that the process has not involved looking at the development of a program to maintain the nutrient reductions in the future, but that such a process is needed.

The Secretary encouraged local governments to: (i) provide her agencies with information; (ii) initiate assessments to identify effective nutrient reduction processes for their localities by consulting with farmers and citizens groups; and (iii) ascertain the most cost effective solutions.

Mr. Collin Powers, from the Department of Environmental Quality (DEQ) and team leader for the development of the Rappahannock Tributary Plan, addressed the commission on numerous occasions. Mr. Powers expressed his view that the tributary plan approach does not pit the economy against the environment, but rather raises river and water issues and needs with communities and then develops solutions through voluntary participation. Mr. Powers explained that an important step in plan development will be the solicitation of input from localities. He related that during the planning of the Potomac Strategy that basin was divided into four regions based on such factors as predominant land uses and industries and the location of population centers. This division was developed to create workable sized units within which to identify realized and unrealized opportunities to reduce nutrients entering the Potomac and to ascertain what it would take to guarantee the support of local jurisdictions. He added that a similar approach was contemplated for the Rappahannock with a goal of integrating the units based on the protection of the entire river ecosystem.

In response to questions from the panel, Mr. Powers offered that an educational process might be of importance in dealing with the problems of urban over-fertilization and he advised that an updated list of nutrient-loading by region would be available shortly.

Panel members expressed their views that the tributary strategy is a very important issue facing the entire basin and thought it would be important for the panel to contemplate potential roles for the panel in tributary plan development. Mr. Powers reiterated the importance of having local governments and citizens involved in the planning of the strategy. He noted that the current modeling efforts are far superior to previous modeling efforts and will be able to project future growth patterns. He offered that "technical advisory committees" that include university faculty, planners, public utility planners and other scientists will be useful in analyzing the modeling results and that "citizens advisory committees," which should include farmers and other interest groups, will be useful in the selection of local nutrient-reduction methods and their implementation. Mr. Powers added that perhaps those committees, when formed, could interact with the panel, allowing the panel's basin-wide perspective to be considered.

Mr. Powers updated the panel regularly on progress in the development of the Rappahannock River tributary strategy. Although at times panel members became impatient with the pace at which the plan was progressing, Mr. Powers responded that much of the state's effort has been tied to completion of a very complex and sophisticated computer model being developed by the USEPA Chesapeake Bay Program.

As results from the Chesapeake Bay Program Model began to develop, Mr. Powers updated the commission. Data indicates that well over 90 percent of the nutrient loads to the river are from nonpoint sources of pollution. The data also paints a much different picture of the Rappahannock River, often referred to as pristine, showing that, in fact, the river is environmentally stressed.

J. RAPPAHANNOCK RIVER BASIN WATER QUALITY MANAGEMENT PLAN (APRIL 30 AND OCTOBER 1, 1997)

Mr. Ron Gregory and Mr. Charles Martin, both from the Department of Environmental Quality (DEQ), provided the panel with briefings and updates on the development of the Rappahannock River Water Quality Management Plan. The federal Clean Water Act requires states that wish to issue water pollution discharge permits in lieu of a federally run permit program to identify and report on waters that do not meet water quality standards and to develop plans to achieve those

standards. State law also requires that such waters be identified and that plans be developed to correct problems.[9]

The report produced pursuant to the federal Clean Water Act in 1996 identified six impaired water segments in the Rappahannock River Basin. The Department of Environmental Quality and the Department of Conservation and Recreation have begun work on a Water Quality Management Plan to bring these waters up to standard. The plan will recommend corrective measures and management strategies necessary to attain the goals established on the state's water quality standards. Methods and strategies will include limiting the discharge allowed in permits, building treatment facilities, and instituting best management practices for nonpoint sources. Both point and nonpoint sources of pollution will be addressed. To ensure efficiency and complementary documents, the plan development will be coordinated with the development of the Rappahannock River tributary strategy.

K. VIRGINIA'S SCENIC RIVERS SYSTEM (OCTOBER 30, 1996)

Mr. Richard G. Gibbons of the Department of Conservation and Recreation (DCR) provided information on the Virginia Scenic Rivers Program[10] which was created following a 1969 report that identified 23 rivers as possible scenic rivers. He emphasized that the program was created out of concern for the protection of rivers for current and future generations and has a vision to protect critical resources values with the involvement of citizens. Mr. Gibbons indicated that all or portions of 18 rivers, including the Rappahannock River from Fredericksburg west, have been approved for adoption into the system and that 10 more rivers were undergoing evaluation. He explained that adding a waterway into the Virginia Scenic Rivers System requires an evaluation by DCR. After evaluation, local governments are notified as to whether or not the river or river segment has the natural and scenic attributes that qualify it for the program. To give support for legislative action adding the river or segment to the program, the affected localities can then pass resolutions in favor of designation.

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[9] § 62.1-44.15(13) and § 62.1-44.19 of the State Water Control Law and the Water Quality Monitoring, Information and Restoration Act (§ 62.1-44.19:4 et seq.)

[10] Va. Code § 10.1-400 et seq.

Major Components of the Scenic Rivers Act

- The Director of DCR has been given the duty to identify, study and recommend rivers or sections of rivers and the areas around their shores for consideration for designation as scenic rivers for their scenic, recreational and historic attributes and natural beauty.

- The Director is authorized to acquire in the name of the Commonwealth, either by gift or purchase, any real property or interest which she finds necessary or desirable for the protection of any scenic river. However, the Director may not exercise the right of eminent domain in acquiring any such property or interest.

- DCR or some other administering agency (the Department of Game and Inland Fisheries in the case of the Rappahannock River) designated by the General Assembly may review and make recommendations regarding plans for the use and development of water and related land resources including the construction of impoundments, diversions, roadway crossings, or other uses which change the character of a stream or waterway or destroy its scenic values.

- An "advisory board" for a scenic river is to be formed to provide assistance and advise concerning the protection or management of the scenic river. The advisory board may consider and comment on any federal, state or local governmental plans that would alter the natural, scenic or historic assets that qualify the river for scenic designation.

Mr. Gibbons explained that, in addition to the scenic river designation, an "administrative agency" is designated with duties that include general monitoring of the river, but that do not limit the responsibilities and powers of the localities. He noted that, through the program, communities can protect not just water quality, but scenic resources as well and that to do so localities need to consider land use and the zoning issues. He offered that the most important action was the establishment of a citizen advisory board.

Mr. Gibbons noted that the Rappahannock from Fredericksburg west has been designated as a scenic river. He added that some preliminary studies have been conducted on the lower portion of the river, but that no direct inquiries have been received during the past six or seven years. He concluded by advising the panel that the "scenic river" designation was a wonderful promotional tool.

L. DRAGON RUN COMMITTEE (OCTOBER 30, 1996)

Mr. Dan Kavanagh, Executive Director of the Middle Peninsula Planning District Commission (MPPDC), and Mr. Jim Uzel, also of the MPPDC, related their experiences in the creation of a watershed management body. They suggested that some of the lessons they learned through their involvement with the Dragon Run

Committee may be transferable to the panel's effort and they stressed that grassroots involvement is crucial to the success of any such project.[11]

According to Mr. Kavanaugh, it took 12 years for the Dragon Run Committee to reach a point where it could complete a watershed management plan. He attributed some of the delay to a lack of committed resources, several changes in the membership of the steering committee and inconsistent funding. Mr. Uzel noted that several aspects aided the development of the plan. They are: (i) that all four Dragon Run localities were within the MPPDC, (ii) that a low development rate provided needed time, (iii) that the involved localities brought ideas from the local level, and (iv) that the landowners along the Dragon Run participated. More recently, the role of technology and the use of a geographic information system has been and will continue to be very important in the management plan.

Mr. Uzel advised the commission of a number of ongoing efforts to protect Dragon Run, including those to prevent harmful forestry practices, to increase recreational use, to foster stream buffers and to establish future land use plans. He remarked, however, that it took a crisis (20 five-acre lots selling in one afternoon) to spur interest in a management program and plan.

Mr. Uzel advised the panel that the Dragon Run Watershed Management Program provides a comprehensive study of land use, water quality, pollutant loadings, and local government polices related to Dragon Run and that it has assisted in the development of the Dragon Run Watershed Management Plan. The plan describes the watershed, plan methodology, nutrient levels, water quality monitoring, issue and policy options and the implementation tools.

Mr. Uzel noted that land development issues emerged as a central theme in protecting Dragon Run's water quality and natural characteristics. He discussed a number of the highly recommended policy options found in the watershed plan. These include the "conservation subdivision" option which relates to farm land conversion and which delineates development areas and locates lot lines based on open-space access, views and land-form protection. He also described "net buildable lot subdivisions" as one option to alleviate problems of subdivision and home construction affecting habitat. He explained that a net buildable lot subdivision prohibits the counting of at least 80 percent of the unbuildable part of a lot (due to steep slopes, wetlands, etc.) as part of the lot size. Other policy options in the plan include: (i) requirements for a written pre-harvest plan prior to starting timbering operations, the provision of a streamside management zone, and education for landowners to alleviate problems encountered with timber harvests; (ii) educating

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[11] Dragon Run is a brackish tidal and nontidal stream flowing 40 miles through the Middle Peninsula counties of Essex, King and Queen, Middlesex, and Gloucester that empties into the Piankatank River. The watershed is 99% undeveloped (91% forested and 8% used for agriculture), contains extensive nontidal cypress swamps and supports recreational fishing and game and nongame wildlife.

the public on their rights and responsibilities to help resolve conflicts between Dragon Run riparian landowners and recreational users; and (iii) the provision of "exceptional waters designation" which will prevent any additional point source discharges into the area designated as such.

Mr. Uzel noted that, although the public's stated preference was to maintain the pristine character of the Dragon Run, they realized that growth is inevitable and will change the character of the area if a suitable plan is not developed. He concluded that the plan is a result of that realization and should further result in the continued quality of the Dragon Run area, providing for both planned human settlement and natural resource preservation.

M. RELATED EFFORTS IN THE RAPPAHANNOCK RIVER BASIN (APRIL 30, 1997)

The RRBSC received a briefing on four water quality projects that could aid the commission's efforts. Each is described below.

1. The Rappahannock Conservation Council (RCC)

Kristin Anderson provided an overview of the Rappahannock Conservation Council (RCC) which is composed of one soil and water conservation district (SWCD) director from each of the seven SWCDs within the Rappahannock River Basin. It is supported by a technical resource group which has both government and nongovernment members. The directors are locally elected officials who serve the jurisdictions within the Rappahannock watershed. Ms. Anderson noted that the directors understand soil and water issues at the local level and fully endorse a voluntary, responsible approach to watershed management. She also stressed that SWCDs have a 50-year history of assessing nonpoint source pollution and are available to assist with the technical and educational needs of the Rappahannock River Basin Study Commission on a basin-wide scale.

Some examples of the RCC's members' efforts include:

a. Culpeper SWCD leading an effort in the upper Rappahannock to reduce run-off from disturbed winter pasture, livestock feeding sites.

b. Tri-County/City SWCD developing an innovative bioretention area BMP to manage urban stormwater run-off.

c. Three Rivers' SWCD, in the lower Rappahannock, developing a nutrient and pest-management plan for a golf course in Essex County.

In addition, the RCC oversees a Rappahannock Watershed Coordinator who is to conduct land use assessment of 50 miles of stream segments classified as impaired waters by the Department of Environmental Quality due to violation of the state fecal coliform standard.

2. Rappahannock River Atlas Project

Jim Uzel noted that four planning districts within the Rappahannock River Basin worked jointly with an advisory committee consisting of representatives of local governments, SWCDs and state agencies to assemble data on development patterns, population density, soil features, Virginia Pollutant Discharge Elimination System (VPDES) discharge locations, natural features and public lands. The Middle Peninsula PDC formatted and publish the data layers in an atlas format and on CD-ROM.

3. Upper Rappahannock Tributary Strategy Project

Danielle Deemer, of RADCO, described the Upper Rappahannock Tributary Strategy Project which, in conjunction with other complementary projects in the watershed, provides a regional forum for information sharing, dialogue and problem solving. The project's goal is to promote a grassroots education effort aimed at local elected officials, staff and area developers that will produce an informed, cooperative commitment from the leadership and citizenry of the watershed to improve the waters of the Rappahannock River and the Chesapeake Bay.

4. Mountain Run Watershed Study

The Mountain Run Watershed Study is a two-year program testing Mountain Run water quality at 11 sites. According to Gary Christie of the RRPDC, Mountain Run Watershed covers two-thirds of Culpeper County and is the source of drinking water for the Town of Culpeper. Mountain Run traverses both agricultural and urban land areas and has been identified as a high priority watershed due to nonpoint source pollution. The study will identify (with the assistance of computer modeling) and map sub-watersheds of high nonpoint source pollution. Once the study is completed, matching funds will be made available to property owners in identified areas to address specific sources of pollution.

N. RAPPAHANNOCK RIVER BASIN SUMMIT (AUGUST 20, 1997)

Perhaps one of the most significant achievements of the panel was the convening, in conjunction with the Rappahannock Conservation Council, of a Rappahannock River Basin Summit. (Appendix 7) The open conference's principle audience included members of local government bodies within the basin, chief administrative officers and key planning staff as well as members of the General Assembly. Some of the conference goals were to (i) provide participants with a better understanding of river-related concerns, including water quality protection and enhancement; (ii) discuss the importance of addressing concerns and developing solutions from a basin-wide perspective; (iii) present techniques to address these concerns; and (iv) discuss the potential structure and purposes of a continuing Rappahannock River Basin Commission.

In addition to broad discussions of the character of the basin and the issues facing it, specific panels addressed (i) the Chesapeake Bay Program and Tributary Strategies; (ii) multiple uses of the riparian zone; and (iii) best management practices, including basin-wide, nonpoint, source-pollution efforts and innovative techniques. Delegate Tayloe Murphy presented a keynote speech on the power and impact of land use decisions in the Rappahannock River Basin. He emphasized the importance of sound land use planning and decision making at the local level to protect the river and those who rely upon it for economic, recreational and aesthetic reasons. Staff presented, for public comment, a discussion document on the potential purposes and structure of a continuing Rappahannock River Basin Commission.

IV. DELIBERATIONS ON ISSUES OTHER THAN THOSE DIRECTLY RELATED TO THE FORMATION OF A CONTINUING BASIN COMMISSION AND NOT ADDRESSED BY SPECIFIC BRIEFINGS.

At each of the panel's meetings, members engaged in considerable discussions on the briefings and public testimony and on issues facing the river. Other than those issues directly related to the creation of an ongoing basin commission and those found under other headings of this report, this section reviews some of the more prevalent issues discussed by the RRBSC.

Early in its efforts, the RRBSC recognized the need for and importance of gathering information on (i) the efforts undertaken to protect the river; (ii) the various uses made of the river; and (iii) concerns regarding the river and its resources. Each locality represented on the panel was requested to provide information on these three topics. The following tables summarize the information provided. (Also see Appendix 8)

A. PROTECTION AND RESTORATION EFFORTS, USES AND CONCERNS

1. Efforts

Clean-ups	Biological monitoring
Water quality monitoring	Household drinking water testing
Groundwater quality evaluation	Water conservation
Research (Mary Washington College)	Land development planning
Development practices	Technical assistance to land owners
Land use and development regulations	Waste water treatment plant upgrades
Erosion and sediment control	Promoting activities on and around the river
Education	Technical assistance to agriculture and promotion of cost-share projects
Industry discharge treatment	Wetland protection
Shoreline protection	Additional local staff resources
Chesapeake Bay Preservation Act implementation	Storm water management
Development of integrated program for water quality protection	Involvement in and promotion of multi-jurisdictional and multi-interest efforts

2. Uses

Drinking water	Agricultural irrigation
Livestock watering	Cooling water
Water supply for industry	Industrial discharge
Sewage discharge	Grain transportation
Barge traffic (transportation)	Tourism and travel
Sand and gravel source	Marinas
Commercial cruise ships	Aquaculture
Seafood and commercial fishing	Recreation on and around river (including boating, canoeing, hunting, swimming, hiking and camping)
Oystering, crabbing and fishing	Habitat in and around the river
"Scenery" for aesthetic value	Public landings
Waterfowl refuge	

3. Concerns

Drinking water resources protection (for now and into the future)	Habitat protection
Recreation resource protection	Agricultural and forestal use protection
Restoration and maintenance of beauty and quality of the basin	Economic development opportunities (and ability to maximize)
Agriculture and forestry practices impacts on water quality	Point and nonpoint source pollution
Nonpoint source pollution including sediment and nutrients	Cumulative effect of point and nonpoint sources
Impact of upstream wastewater discharges	Interbasin transfer of water/sewage
Ability to maximize long-term water quality	Increased upstream withdrawal's impact on downstream supplies
Needs for water withdrawals to support growth and impacts of those withdrawals on rivers	Regulations based on over-zealousness or insufficient study
Maintenance of local control; regulations restricting local ability to use river as a drinking water source	Mandates
	Impact of upstream development on downstream water quality and uses
Impact and manner of land development	Future spills from Colonial Petroleum pipeline
Future highway construction impact on water quality	Insufficient research and monitoring
Education	Need for benefits/risks analysis and decision making through a comprehensive review of the impacts on the river and other uses and rivers resources
Need for involvement of all localities and agencies along the river	Power base in more developed and populated areas will prevent full and fair evaluation of upstream impacts on lower basin water quality
Turnover in elected representatives and increasing population impact ability to adhere to river protection principles in long term	Increased boat traffic leading to more shoreline erosion
Access	
Need to do everything possible to improve and maintain water quality so as to support the	

return of finfish and shellfish to levels that will again support the once-vibrant seafood industry	
Need to put in place mechanisms and techniques that will ensure that the resource is sustainable	

After reviewing the uses, efforts and concerns, panel members made a number of observations. Overall, there was a great deal of concern for the health of the river and an acknowledgment by all that each locality impacts the river. It was also recognized that the river, land uses and topography vary widely throughout the basin and that, depending on the location along the river, different mechanisms for protecting the river may be needed. Members expressed a willingness to take actions to protect the river from negative impacts originating from their locality if it could be shown that they were contributing to the problem. They noted that economic and environmental issues are interconnected and that improving environmental and river conditions benefits the economy.

Useful for a number of reasons, the review included basin-wide educational efforts that led upstream localities to acknowledge the impacts they might have on downstream communities, and downstream localities to appreciate the needs of upstream communities. Nevertheless, a multitude of issues and problems remain unsolved and will require complicated, coordinated solutions. In dealing with these problems, it will be important for those in the basin to take a basin-wide view of problems and, rather than blaming others, to find collectively beneficial solutions.

Because of difficulties in identifying contributors and implementing and enforcing solutions, nonpoint source pollution was identified as a particularly troubling problem. Stream buffers were mentioned as one particularly useful mechanism to control nonpoint pollution. Because of their land use responsibilities, local governments will be key to finding solutions. It will be important for local governments to find mutually-beneficial, coordinated solutions so that individual localities taking actions to protect the river are not economically disadvantaged.

B. PUBLIC COMMENTS

On August 21, 1997, at the RRBSC's second meeting, a public hearing was held at the Walker Grant Middle School in Fredericksburg for the purpose of receiving input on the idea of establishing a river commission and soliciting new ideas regarding river issues. Approximately 25 presentations were made by citizens representing themselves, conservation groups, riparian land owners, federal and state agencies, soil and water conservation districts and agricultural and other interests. The commission also received public comment at each of its meetings and at the river basin summit.

At all of these opportunities to address the RRBSC, the public overwhelmingly supported continuation of a body that was based along watershed boundaries and that was designed to foster communication, planning and coordination on issues impacting the river.

Issues raised and positions advanced at the various opportunities for public comments included the following:

- The importance of addressing land use and planning issues to avoid the impact of improper or unplanned development;
- The importance of protecting the river so that it does not become as polluted as many other rivers are;
- Not letting the river become a victim of government cutbacks;
- The need for agency coordination and cooperation;
- The need for adequate stream and river buffers;
- The lower costs and impacts of agriculture, forests and farm land on the river and local government finances than more intense development;
- The need for more funding for soil and water conservation districts;
- The need to put conservation ahead of development to assure clean water for the future;
- That pollution-prevention efforts are more cost-effective than cleanup efforts;
- The importance of environmental education and of fostering community efforts;
- The negative water-quality effects of storm water run-off associated with development, increased impervious surfaces and roads;
- The need for more financial assistance for best management practices;
- The benefits of and needs for geographic information systems; and
- The need for increased state involvement, if localities do not develop programs and solutions to protect the river.

In deliberations regarding the public hearing, the commission members noted some important themes, including:

- Unanimous support for a permanent, basin-wide coordination and communication body that would result in benefits for all localities;

- Widespread and deep concern for the river, coupled with a desire for action and the commitment to work together;

- Impressive interest in the enhancement and protection of the water-quality of the river and its environs followed by recreational, educational and economic uses;

- Repeated focus on land use impacts on water quality, particularly those caused by unplanned and improper land uses, and the need for planning and coordination;

- Increasing desire for regional cooperation; and

- Strong and consistent messages that the quality of the Rappahannock is worth the commission's efforts.

C. ECONOMIC IMPORTANCE OF THE RAPPAHANNOCK RIVER

In addition to the environmental condition and needs of the river, the RRBSC discussed the river's economic importance. This discussion took place at the Tides Inn in Irvington where it was noted that the Inn relied on a clean river for its existence. Many of the economic benefits of the river are outlined in the uses, efforts and concerns section of this report. The panel's discussions also noted the historic, current, and future economic importance of the river. Historically, the river provided valuable natural resources in terms of fish and wildlife and was a major means of transportation. One panel member noted that the City of Fredericksburg probably would not exist if it were not for the commerce that was made possible by the river.

While many of the previously commercially-valuable species of fish and shellfish have declined to noncommercial levels, there are still numerous economic uses provided by the river and its natural resources. The commission members recognize that all of these uses are made possible by improved river resource management and they drew a connection between providing for a cleaner, protected river and the bettering of the river basin economy.

Members also recognized that while many consider the river to be "clean," it is in fact polluted, although perhaps not as much as some rivers. Subsequent information provided by the tributary's strategy development effort found that the Rappahannock is, in fact, one of the more environmentally stressed of Virginia's rivers. Many noted that for the economic benefit to grow and prosper in the future, the Rappahannock needs improvement and protection and they recognize that such

efforts will be accompanied by financial costs. It was recognized that with each farmer who does not use BMPs, with each wastewater treatment plant that does not use nutrient reduction practices, and with each homeowner who over-fertilizes, the river will become more polluted, and that others, such as commercial fishermen, who rely on the river will have to pay the cost. Some suggested that, not only for the river's sake, but for the sake of those who are having to bear the financial burden, a better job must be done of seeing that those who create pollution's costs are the ones who pay for them.

D. LEGISLATIVE ISSUES DISCUSSIONS

The commission discussed a number of legislative issues at its final meeting of 1996. These included two bills dealing with local control over land use that were carried over from the 1996 legislative session and another bill that dealt with expansion of the geographic area covered by the Chesapeake Bay Preservation Act, funding for soil and water conservation districts and a continuing resolution for the panel.

Legislative Services staff briefed the RRBSC on the two bills (HB 1517 and HB 1518) carried over from the 1996 legislative session for consideration prior to the 1997 session. Both bills would limit local government zoning authorities. House Bill 1517 related to "conditional zoning," also known as "proffer zoning." An amended version of the bill would prevent any locality from accepting a proffer without first performing a study demonstrating that (i) the rezoning would give rise to the need for the proffered condition, (ii) the conditions have a reasonable relation to the rezoning, and (iii) the conditions are in conformity with the comprehensive plan.

House Bill 1518 would prevent localities from requiring that special exceptions or special use permits be obtained for any single-family residential use in a residential zone. Staff noted that the bill would affect residential zoning in a manner similar to the way that the Right to Farm Act affects agricultural zoning.

Members expressed concern that HB 1517 and HB 1518 could prevent localities from dealing with zoning issues in their areas and affect their ability to deal with land use issues - issues that are important to the health of the river. HB 1517 would make proffers by applicants too burdensome and expensive for smaller localities to consider. Of particular concern was the potential impact HB 1518 could have on cluster development.

A third issue raised by carry-over legislation was expanding the Chesapeake Bay Act throughout the remainder of the watershed. The Act currently only applies to an area defined as "Tidewater" which is roughly the area east of I-95. Some members expressed reluctance to comment on the issue without conferring with other members of their Boards of Supervisors, but all agreed that if their locality was part of a water quality problem then the locality should be willing to take

action. However, they did want information on whether or not they were actually causing a problem. A member from a jurisdiction covered by the act noted that Bay Act localities receive state money for its implementation. If programs are expanded throughout the watershed, then the funding should be expanded as well.

The issues of how the problem of nonpoint source pollution could be addressed basin-wide and how localities without a proper strategy could be persuaded to implement a program were raised. As part of this discussion, it was asserted that, even though the sources and intensity might differ, all jurisdictions in the Chesapeake Bay watershed contributed nonpoint source pollution to the Bay. It was noted that the land characteristics above the fall line differed from those below the line and, therefore, that different tools may be needed. For example, farmers above the fall line work with the land to fight erosion, but the hilly nature of the area may make large land buffers along waterways impractical.

It was offered that each commission member should think about the need to implement nonpoint source pollution programs and that while the programs may cost someone money, someone always pays for someone else's mistakes or failures. For example, watermen have lost their livelihood, paying dearly for others' failure to control pollution.

E. SOIL AND WATER CONSERVATION DISTRICT FUNDING

The RRBSC noted that soil and water conservation districts provide local experts who assist in the protection of water and soil resources by providing technical expertise on such things as conservation plans. It was recognized that this is an extremely valuable service that is in dire need of additional funding and expansion. One area that highlights the need for funding is the current inability of district experts to conduct follow-up visits to check on conservation plan implementation. Members agreed that follow-up visits would offer opportunities for the fine-tuning of plans and local feed-back and would also improve water quality.

V. BRIEFINGS, DELIBERATIONS AND FINDINGS ON THE POTENTIAL STRUCTURES AND GOALS OF A MECHANISM TO ADDRESS COORDINATION, COMMUNICATION, AND STRATEGIC PLANNING ON ISSUES OF BASIN-WIDE SIGNIFICANCE

The resolutions establishing and continuing the RRBSC call on the committee to "examine, evaluate, and make recommendations on the potential structures and goals of a mechanism to address coordination, communication, and strategic planning on issues of basin-wide significance." The RRBSC examined many of the issues facing the river and examples of watershed and river basin-based efforts as a foundation from which to discuss potential structures, goals and mechanisms. It also received, reviewed and discussed public testimony regarding issues relating to a continuing commission. In addition, the commission received a number of briefings from staff on watershed-based efforts existing in Virginia, in

the region and in other states. This section reviews those briefings and RRBSCs findings.

A. EXAMPLES OF OTHER BASIN EFFORTS (JUNE 19 and AUGUST 21, 1996)

Staff was asked to locate and review for the panel examples of basin or watershed-based efforts. In response, staff briefed the panel on a number of local, state and interstate efforts. State efforts presented included State Water Control Board river basin plans pursuant to § 62.1-44.38, the Department of Conservation and Recreation's division of the Commonwealth into 494 watershed or hydraulic units for planning and analysis purposes, the Watershed Planning and Permitting Promotion and Coordination Task Force[12], the State Water Commission water policy efforts[13], and coordination of the development of tributary plans by the Secretary of Natural Resources.[14] Interstate efforts included the Chesapeake Bay Agreement, the Interstate Commission on the Potomac River Basin[15] and the use of interstate compacts. Local efforts discussed included an effort on the Shenandoah River to foster coordination and communication, and the Rappahannock River Resources Council.

To provide examples of a spectrum of vehicles to address water and watershed based issues, staff provided additional detailed information on the organizational structures of six entities. They include the Interstate Commission on the Potomac River Basin, the Delaware River Commission, the Chesapeake Bay Commission, the Maryland Tributary Teams, the Florida Water Management Districts and the Washington State "Water Resources Forums." Descriptions of each follow.

1. Interstate Commission on the Potomac River Basin (ICPRB)

The Interstate Commission on the Potomac River Basin (ICPRB) is part of an interstate compact between the Commonwealths of Virginia and Pennsylvania, the District of Columbia, and the States of Maryland and West Virginia. The compact creates the Potomac Valley Conservancy District which encompasses all of the area drained by the Potomac River and its tributaries. The ICPRB was created as an agency of all of the signatories of the compact and is composed of three members from each signatory and three members appointed by the President of the United States.

Stated reasons for the compact are the recognition that "the abatement and control of pollution of interstate streams can best be promoted through a joint

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[12] Va. Code § 10.1-1193 et seq.

[13] House Document No 96 (1994) and House Document No 68 (1995).

[14] Va. Code §2.1-51.12:1 et seq.

[15] Va. Code § 62.1-64 et seq.

agency representing the states located wholly or in part within the area drained by the interstate streams" and that "the regulation, control and prevention of pollution is directly affected by the quantities of water in said streams and the uses to which such waters may be put, thereby requiring integration and coordination of planning for the development and use of the water and associated land resources through cooperation with, and support and coordination of, the activities of federal, state, local and private agencies, groups, and interests concerned with the development, utilization and conservation of the water and associated land resources of the [area drained by the Potomac and its tributaries]."

ICPRB's powers, particularly as they relate to "stream pollution problems and the utilization, conservation and development of the water and associated land resources," include: (i) research and reporting (and the support of similar activities) on pollution and water-related issues; (ii) the promotion of uniform laws and regulations; (iii) the dissemination of public information; and (iv) formulating and coordinating plans. It may also comment on plans and proposed programs impacting the preceding items. In addition, it may develop and recommend treatment and water quality standards.

An interesting component of the compact is the following agreement:

Pursuant to the aims and purposes of this compact, the signatory bodies mutually agree:

1. Faithful cooperation in the abatement of existing pollution and the prevention of future pollution in the streams of the [Potomac Basin] and in planning for the utilization, conservation and development of the water and associated land resources thereof.

2. The enactment of adequate and, insofar as is practicable, uniform legislation for the abatement and control of pollution and control and use of such streams.

3. The appropriation of biennial sums on the proportionate basis as set forth in [another article of the compact].

2. Delaware River Basin Commission

The Delaware River Basin Commission's formation was driven by the realization that the Delaware River basin's waters and related resources are regional assets vested with local, state and national interests for which there is joint responsibility. The river is 330 miles long, extending from Hancock, New York, to the mouth of the Delaware Bay. It is fed by 216 tributaries in a basin covering 13,539 square miles. The commission was formally created through the Delaware River Basin Compact in 1961, bringing together the four states in the basin (Pennsylvania, Delaware, New York and New Jersey) and the federal government.

The members of the commission are the governors of the four basin states and a federal member appointed by the President of the United States (traditionally the Secretary of the Interior). Each member is to appoint an alternate. A chair and two vice chairs are elected annually based on a rotation of the five signatory parties. Each member has an equal vote with a majority vote needed to decide most issues and a unanimous vote necessary for the annual budget and drought declarations.

Commission programs include: water quality protection, water supply allocation, regulatory review, water conservation initiatives, regional planning, drought management, flood control and recreation.

Funding is provided by the five signatories and through revenues generated from project review fees, water use charges, fines, and federal, state and private grants.

3. Chesapeake Bay Commission[16]

The commission consists of 21 members: seven from Virginia, seven from Maryland and seven from Pennsylvania. In each state, five of the members are members of the General Assembly, one member is the Governor or his designee, and one member is a citizen who is not a member of the legislature or an employee of the executive branch. In Virginia, two Senators designated by the Senate Committee on Privileges and Elections and three Delegates designated by the Speaker of the House of Delegates serve as members. The Governor of Virginia or his designee also serves as a member. In addition, the Senate Committee on Privileges and Elections and the Speaker of the House of Delegates jointly select the citizen member.

The purposes of the signatories in enacting this Agreement are to assist the legislatures of Maryland, Virginia and Pennsylvania in evaluating and responding to problems of mutual concern relating to the Chesapeake Bay; to promote intergovernmental cooperation; to encourage cooperative, coordinated resource planning and action by the signatories and their agencies; to provide, where appropriate, through recommendation to the respective legislature, uniform legislative application; to preserve and enhance the functions, powers and duties of existing offices and agencies of government; and to recommend improvements in the existing management system for the benefit of the present and future inhabitants of the Chesapeake Bay region.

The Chesapeake Bay Commission is only one element of the overall Chesapeake Bay Program. The commission is a member of the Chesapeake Executive Council whose other members include the Governors of Maryland, Pennsylvania and Virginia, the Mayor of the District of Columbia, and the

[16] Va. Code § 62.1-69.5 et seq.

Administrator of the USEPA. The Executive Council signed the 1987 Chesapeake Bay Agreement setting a new commitment to manage the Chesapeake Bay as an integrated ecosystem and committing the signatories to specific goals and actions. As the understanding of the needs of the Bay and its resources advances, additional goals and commitments are made by the signatories. One important result of the goals and commitments is that they establish milestones for measuring progress and for holding the bay restoration effort accountable.

4. State of Maryland Tributary Teams for Tributary Strategy Implementation

As part of the multi-state Chesapeake Bay restoration effort to reduce nutrients reaching the Bay, the State of Maryland formed "Tributary Teams" for implementing the tributary strategies developed in Maryland. One goal of Maryland's tributary strategies is to "introduce new working relationships between federal, state and local governments, businesses, the agricultural community and citizens to improve water quality, and [to enhance] habitat for living resources."

The teams are charged with:

a. Ensuring that tributary plan implementation proceeds on schedule in a fair and flexible manner;

b. Coordinating participation among citizens, government agencies, and other interested parties; and

c. Promoting an understanding of tributary strategy goals and the actions needed to achieve them through public education.

Tributary teams were formed in each of the state's ten watersheds. Each team is made up of representatives of local government agencies, farmers, businesses, environmental organizations, federal facilities, citizens and one state agency employee who represents all state agencies.

Team members were selected from among individuals who nominated themselves at public meetings and from individuals who were recruited to ensure balanced representation of all stakeholder groups. Once lists of potential members were compiled by ad hoc committees of local government and state staff, they were sent to local elected officials for review and comment and, finally, to the Governor for formal appointment. Membership composition is not set, except that each team is required to have one state agency representative who represents all state agencies. This allows for a flexibility in membership that is based on the particular needs of the watershed. The state has also hired two "team coordinators" to provide organizational and staff support for all ten teams.

The teams have met individually on a monthly basis with some subgroups meeting more regularly to provide local knowledge. The teams' efforts have been essential to implementing best management practices and in helping state and local

governments target their programs to improve efficiency and participation. A joint meeting to share experiences and ideas of all of the teams is planned each year.

5. Florida Water Management Districts

The State of Florida is divided into five Water Management Districts, the boundaries of which are based on hydrology rather than political boundaries. Functions of the districts include: planning and research; construction, operation and maintenance of waterworks; land management; and water use regulations. The districts implement planning objectives, which encompass wetlands protection, optimizing aquifer withdrawals and diversifying supply sources by issuing permits for water withdrawals from surface or groundwater sources. The districts have authority to levy property taxes and are responsible for environmental protection and enhancement, providing water supply, flood protection and water quality protection.

Each district is presided over by a Governing Board composed of either nine or 11 members, all of whom reside within the district boundaries. In addition, individual members must also reside in specified hydrologic divisions within the larger district. The governor appoints the members, who are subject to confirmation by the Florida Senate.

The Florida Department of Environmental Protection has general, supervisory authority over the districts. The Florida DEP is also directed to delegate water resources programs to the districts whenever possible.

6. Washington State Water Resources Forum

Washington uses a public participation and consensus-building approach to water management through tribal and state governments creating a "Water Resources Forum." The forum is comprised of several caucuses representing Indian tribes, state government, local government, businesses, fisheries, and recreational, agricultural and environmental interests. All forum decisions are made by consensus, so the agreement of each caucus is a prerequisite for action. The forum's responsibilities include shaping state policy, clarifying existing policies, recommending changes to state law, and providing policy guidance. Finally, the forum provides a framework to provide education and information to build public support for cooperative water resource planning and management.

B. REOCCURRING THEMES IN BASIN ORGANIZATIONS (AUGUST 21, 1996)

Based on a review of the preceding six examples, as well as numerous others from around the country, staff presented a summary of 12 common or reoccurring elements found in watershed and basin-level efforts. These elements may be found

either in a written document agreed to by the parties forming the groups or in the actual operation of a group.

1. Membership; Structure, Qualifications

To a large extent, membership varies based on need and the issues to be addressed. Generally, membership includes diverse interests from throughout the geographic area. Because of these factors, membership composition varies widely, including any combination of citizens, interest groups, local, state and federal agency representatives, and elected officials (both legislative and executive). Individual member qualifications vary as well, ranging from mere interest to a specific expertise and residence in a hydrologically defined area, and may include any combination of qualifications. Chairmanships and numbers of vice chairs vary as well and, in some cases, the positions rotate among members.

2. Defined Purpose, Powers, Duties of Focus

Most efforts clearly define their purpose. Purposes range widely from the very broad, such as general study and education efforts, to the more narrow, such as making policy recommendations to specific regulatory authorities on specific issues. In some cases, specific goals are set with benchmarks against which to measure progress.

One purpose of the panel is to "...assist the Commonwealth and the localities in the basin in planning, cooperation and coordination on issues of basin-wide significance."

3. Geographically or Hydrologically Related, Rather Than Politically Based, Boundaries

Basin efforts by their nature are based on geographic and hydrologic factors rather than on political boundaries. In the current study, the boundary has been defined as the Rappahannock River Basin, although membership is based on political jurisdictional boundaries and does not include representatives from some political jurisdictions that have small portions in the basin.

4. Stakeholder Involvement

Stakeholder involvement is often noted as a key element in successful efforts. Sources of involvement depend on the membership of the lead group and on the degree of stakeholder involvement that group already has. Structural sources necessary to gain such involvement include: subcommittees, ad hoc advisory committees, required advisory committees, public hearings, and open meetings with public participation.

5. Information Gathering

The need for gathering information varies based on the purposes and goals of the group and ranges from data collection to detailed scientific research.

6. Meeting Requirements

Some efforts specify how meetings will be called or held. Examples include: at the call of the chair, at the call of a percentage of members, on a set schedule, and a set number of times per year.

7. Decision Making Requirements

This element deals with the requirements, if any, placed on taking actions. For example, unanimity may not be required for deciding when a meeting will be held, but it may be required for water allocation issues. This element will depend a great deal on what the group is set up to do. Requirements range from a simple majority of a quorum to unanimity.

8. Staffing

Staffing ranges from none to assistance from other organizations or from governmental agencies to full-time staff.

9. Statements Recognizing Need for the Organization and Establishing Ground Rules

Many examples contain written statements (statutes, compacts, agreed to statement of purpose, etc.) describing the need for the effort to be undertaken, the purpose for which the group is formed and the mechanisms through which it will act. Reasons found in "need" statements include: the anticipation of better results through coordination; a recognition of mutual impacts and a desire to find mutually beneficial solutions; the need for coordination, communication, and consistency on a variety of issues; and the recognition of a problem that needs fixing through a joint effort. Many of the "ground rules" have already been mentioned as common elements in this summary.

10. Statements of Commitment to Cooperate

An apparent outgrowth of the multi-jurisdictional nature of basin organizations and the purpose of reaching mutual goals are statements found in a number of writings that create the groups relative to cooperation. These statements range from simple agreements to cooperate to commitments to specific tasks and accomplishment of particular goals.

11. Amendment and Termination of Agreements

Generally, amendments to organizational documents are made by vote of the membership. Withdrawal generally requires prior notice with lag time before it becomes effective.

12. Funding

Funding varies, from purely voluntary efforts with no funding to well-financed organizations. Sources of funding vary as well and include contributions and grants, local government and state appropriations, contributions of staff time, fees for activities and services provided, and assessments and taxes.

C. FINDINGS AND ACTIONS

Based on extensive deliberations, public testimony briefings and first hand examination of the issues facing the Rappahannock, the RRBSC reached a number of conclusions. The Commission found that:

1. There is a need for a mechanism to coordinate and communicate the multitude of individual, local, state and federal activities that influence the basin's natural resources;
2. There is a need for easily accessible, decision making information at both the public policy level and the individual level;
3. The environmental health of the basin directly impacts economic health;
4. There are great benefits to the basin's localities meeting together and discussing their individual and mutual concerns;
5. To help address these issues there should be a continuing commission including elected officials from throughout the basin;
6. Such an entity should not be a regulatory body; and
7. The body should be guided by a concise mission statement with emphasis on stewardship, protection and enhancement of the basin's water quality and other natural resources.

Over the course of several meetings, the RRBSC examined and discussed a series of elements and issues that support the seven conclusions and that are to be addressed when developing the structure, mechanisms and goals for an ongoing commission. These elements and issues include: basin commission purpose; commission authority; membership composition, qualifications, and selection; stakeholder involvement; commission creation; voting; withdrawal; staffing; funding; and other organizational issues.

1. Basin Commission Purpose

The RRBSC found that a statement of purpose will be important for an ongoing commission to guide future activities and expectations. It reviewed a

number of statements that could be incorporated into the document creating the ongoing body. The RRBSC's broad purpose for an ongoing commission is to: "...assist the Commonwealth and the localities in the basin in planning, cooperation and coordination on issues of basin-wide significance." The RRBSC also identified the following objectives, purposes and goals as being important to its efforts and to the efforts of any continuing body that may be formed. They are:

a. Assisting the Commonwealth and the localities in the basin in planning, cooperation and coordination on issues of basin-wide significance related to river water quality and quantity and the basin's natural and related economic resources;

b. Identifying the interdependent needs and benefits of the basin's localities and citizens as they relate to the Rappahannock River;

c. Examining the efforts of various entities relative to the river, including state and local governments, regional agencies, organizations, businesses and individuals, and recommending strategies to increase the efficiency of those efforts;

d. Documenting the various uses that people of the basin make of the river, the impact of those uses, and the importance of the river to the region and to the Commonwealth;

e. Examining, evaluating and making recommendations regarding the concerns of various entities with an interest in the river;

f. Researching and considering the applicability of the methods used in other areas to increase communication and coordination among entities concerned with a major river;

g. Facilitating the local governments of the basin and fostering better understanding of each locality's needs and impacts relative to the river, its resources and to each other;

h. Facilitating meaningful citizen involvement in the discussion of river basin issues;

i. Identifying, recommending and implementing means of improving communication between state agencies and local governments on river-related issues and policies of concern to local governments within the basin;

j. Identifying, discussing, recommending and acquiring the resources necessary to maintain an ongoing effort for basin-wide planning, communication and coordination; and

k. Developing and participating in the development of long-term strategies for coordination, communication, planning and solutions on issues of basin-wide

significance as they relate to river water quality and quantity and the river's natural and economic resources.

The RRBSC noted that a great deal of the public testimony focused on the commission's purpose and goals, with most calling for a concise statement that incorporated a stewardship theme. Commission members discussed developing a mission statement to be used in conjunction with, or to take the place of, the purposes, goals and objectives listed above. The commission agreed with the public comment calling for a mission statement. It also viewed the listed purposes, goals and objectives as means by which a continuing commission could achieve the outcome of a mission statement.

The following mission statement was proposed by the RRBSC for consideration by the 1998 Session of the General Assembly.

The Commission's purposes and mission shall be to provide guidance for the stewardship and enhancement of the water quality and natural resources of the Rappahannock River Basin. The Commission shall be a forum in which local governments and citizens can discuss issues affecting the Basin's water quality and quantity and other natural resources. Through promoting communication, coordination and education, and by suggesting appropriate solutions to identified problems, the Commission shall promote activities by local, state and federal governments, and by individuals, that foster resource stewardship for the environmental and economic health of the Basin.[17]

2. Authority

Closely related to the ongoing commission's purposes are the powers and authorities which provide the means for achieving those purposes. A central issue discussed by commission members was whether the ongoing commission will be a communication and advisory body or whether it will have regulatory authority. RRBSC members were adamant that the continuing body should be nonregulatory.

Among the authorities discussed by RRBSC, those that will allow the on-going commission to do the following were identified as having potential usefulness to a continuing body:

a. Communicate basin commission views to state and federal agencies on the full spectrum of issues relating to the Rappahannock River;

b. Conduct studies;

c. Maintain information and technical data and resources;

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[17] Now found in § 62.1-69.27.

d. Develop long-term strategies related to coordination, communication and planning for such issues as future basin growth and development, water allocation, interbasin transfers, stream buffer protection, and river and water quality protection;

e. Raise funds, seek and accept grants, transfer funds to others, and/or pool financial resources to support particular river-related projects;

f. Manage lands, accept easements;

g. Produce educational materials; and

h. Form advisory committees.

For consideration by the 1998 Session of the General Assembly, the RRBSC proposed the following language relating to authorities for a continuing body.

To carry out its purposes and mission, the Commission shall have the power to:

1. Communicate, including through legislative recommendations, Commission views to local, state and federal legislative and administrative bodies, and to others as it deems necessary and appropriate.

2. Undertake studies and prepare, publish and disseminate information in reports and in other forms related to the water quality and natural resources of the Basin and to further its purposes and mission.

3. Enter into contracts and execute all instruments necessary or appropriate.

4. Perform any lawful acts necessary or appropriate.

5. Establish a nonprofit corporation as an instrumentality to assist in the details of administering its affairs and in raising funds.

6. Seek, apply for, accept and expend gifts, grants and donations, services and other aids, from public or private sources. Other than those from member jurisdictions and those appropriated by the General Assembly, funds may be accepted by the Commission only after an affirmative vote by the Commission or by following such other procedure as may be established by the Commission for the conduct of its business.

7. Establish balanced advisory committees that may include representation from agricultural, environmental, resources-based, industrial, recreational, riparian landowner, development, educational and other interests as it deems necessary and appropriate.

8. Develop rules and procedures for the conduct of its business or necessary to carry out its purposes and mission, including, but not limited to, selecting a chair and vice-chairs, rotating chairmanships, calling meetings and establishing voting

procedures. Rules and procedures developed pursuant to this subdivision shall be effective upon an affirmative vote by a majority of the Commission members.[18]

The RRBSC also recommended language explicitly stating that the continuing commission have no regulatory authority.[19]

3. Membership Composition, Qualifications, Selection and Terms

a. Composition

Numerous options for membership of a continuing basin commission were considered by the RRBSC as were issues related to member qualifications, selection methods and terms of office. The RRBSC membership was composed of local elected officials from the 15 counties in the basin and the City of Fredericksburg as well as interested General Assembly members from districts covering a portion of the basin. In addition, the chairman invited a representative of the soil and water conservation districts to sit with the RRBSC as an *ex officio* member.

The following potential members were considered:

(1) Local elected officials
(2) State Delegates
(3) State Senators
(4) Soil and water conservation district representatives
(5) PDC representatives
(6) Stakeholders, including:
    Conservation groups
    Riparian land owners
    Water treatment plant operators
    Water supply facility operators
    Industry representatives
    Agricultural representatives
    River living-resource "user" groups (i.e. watermen, recreational anglers, hunters, boaters)
(7) Combinations of 1 through 6

Using the RRBSC membership structure as an example, the public made a number of suggestions including: (i) adding two soil and water conservation district representatives to provide additional technical expertise; (ii) adding academic and scientific community representatives to provide additional expertise; and (iii) considering diversity in the membership to provide additional viewpoints. The consensus reached by the commission, however, called for a membership composition similar to that of the RRBSC. The decision was supported by the

[18] Now found in § 62.1-69.28.
[19] See § 62.1-69.28.

thoughts that a commission made up of elected officials has more political weight, and that the continuing commission will be authorized to form advisory committees to provide additional technical resources and insights. In addition, there was concern that a commission much larger than the RRBSC could be unmanageable.

The RRBSC concluded that: (i) an ongoing commission membership should include a combination of local elected officials and state elected officials; (ii) current RRBSC member localities should each have one representative; (iii) every state senator and delegate whose district is at least partially in the basin should have an opportunity for membership; (iv) the basin's soil and water conservation districts should have a single representative; and (v) stakeholders should be involved through ad hoc advisory groups and through other public participation mechanisms.

b. Member Qualifications

The Commission discussed numerous issues with regard to qualifications for membership. It is assumed that the boundaries of the Rappahannock River Basin will be the boundaries from which membership may be drawn and that jurisdictions that are at least partially in the basin will have representation. Some jurisdictions, such as Albemarle and Northumberland Counties, have very small portions in the basin. This raised the question of whether a jurisdiction should have representation no matter how much of the jurisdiction lies outside of the basin. As noted below, the commission specified the jurisdictions which could become members of the continuing body.

The question of whether or not locally-elected commission members should actually be from and represent an area entirely in the basin or whether they should only be required to be from a jurisdiction at least partially in the basin was resolved in favor of the latter. Having the member represent an area in the basin was supported by the probability of greater interest in the stewardship and communication needs within the basin. The contrary argument, that an in-basin representative may not necessarily have the same level of expertise or interest as other elected officials from that jurisdiction, prevailed.

c. Member Selection

The method for selecting members also generated numerous questions. For example, if the ongoing commission is to have local government elected official representation, how should the person be selected? Should it be the chief elected official? Should the decision and the method of selection be left to each locality? Should some method for selection be specified (i.e. by majority vote of the elected body)? How should state-level elected official representatives be selected? Should all state delegates and senators who represent districts at least partially in the basin be designated as members? Should only those in the specified districts (as in the resolution establishing the study committee) who request membership be members?

Issues related to selection of specific members were resolved in favor of flexibility. Local-government elected-official representatives should be chosen by the local governing body in a manner to be decided by that body. State legislators should be able to chose whether or not to be a members of the commission, and the basin's soil and water conservation districts representatives should be selected in a manner decided by all of the basin's districts. Provision was also made for alternates to fill in when members are unable to attend a meeting. It was decided that alternates should be selected by the local governing body at the same time the primary member is selected.

d. Terms of Office

Issues relating to the members' terms of office were resolved in favor of each locality and the soil and water conservation districts being able to decide the term of their representatives, although the terms should be a minimum of one year and should have a relationship to election cycles. General Assembly members' terms should be coincident with their terms in office.

e. Stakeholder Involvement

Commission members noted that stakeholder involvement has been an important element of the successful basin efforts it examined. Members also found that stakeholder involvement may be developed through a number of different options and does not necessarily require membership on the central body. It was agreed that the ongoing commission should have ample mechanisms for citizen and interest-group participation. Therefore, it was decided that the continuing body should be specifically empowered to establish balanced advisory committees including representation from agricultural, environmental, resource-based, industrial, recreational, development and other interests as it deems necessary.[20]

The RRBSC proposed the following language relating to membership of a continuing body for consideration by the 1998 Session of the General Assembly.

A. The membership of the Commission shall be as follows:

One member from each of the elected governing bodies of the jurisdictions found wholly or partially within the Rappahannock River Basin that, at any time, pass a resolution containing the language required by § 62.1-69.26[21]*. Each local governing body shall select its representative and an alternate in such manner as it decides. A local government representative's term shall be for a minimum of one year but shall not extend beyond his elected term.*

One member shall be a representative of the Soil and Water Conservation Districts found wholly or partially within the Rappahannock River Basin. The

[20] See subdivision 7 of § 62.1-69.28.

[21] Reproduced in the following "Commission Creation" subsection of the report.

representative and an alternate shall be selected from the elected members of the Basin's Soil and Water Conservation Districts in a manner agree[d] *upon by the Basin's Districts. The Soil and Water Conservation District representative's term shall be for a minimum of one year but shall not extend beyond his elected term.*

Representation from the Senate and the House of Delegates shall be composed of those members of the Senate and House whose districts include a portion of the Rappahannock River Basin and who express their desire to be a Commission member to the Senate Committee on Privileges and Elections or to the Speaker of the House as appropriate for their respective chambers. Senate and House members' terms on the Commission shall coincide with their terms as members of the General Assembly or until they express a desire to no longer be a Commission member to the Senate Committee on Privileges and Elections or to the Speaker of the House as appropriate for their chambers.

B. Vacancies shall be filled in the same manner as the original selection.[22]

4. Commission Creation

A number of options were discussed for the method of creating an ongoing commission. Options ranged from a statute drafted with very specific requirements to the formation, by basin local governments, of an informal network without specific statutory authority. The possibilities of a flexible statute and an agreement among localities to meet and discuss issues without any legislative action were also discussed.

The commission concluded that the formation of a basin commission should be authorized by statute and that the actual formation of the commission should require a favorable vote by two-thirds of the eligible local governing bodies. Membership would be composed of representatives of only those localities in the basin that voted to form a continuing commission.

The RRBSC proposed the following language relating to formation of a continuing body for consideration by the 1998 Session of the General Assembly.

The Rappahannock River Basin Commission, hereinafter referred to as the "Commission," shall be established upon passage by two-thirds of the Rappahannock River Basin's[23] *localities of a resolution that commits them to participate in the Commission as described in this chapter. The resolution shall contain the following language:*

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[22] Now found in § 62.1-69.29.

[23] The basin is defined in *§ 62.1-69.25 as follows:*
"'Rappahannock River Basin' means that land area designated as the Rappahannock River Basin by the State Water Control Board pursuant to § 62.1-44.38 and which is also found in the Fourth, Seventeenth, Twenty-fifth, Twenty-sixth, Twenty-seventh and Twenty-eighth Senatorial Districts or the Twenty-eighth, Thirtieth, Thirty-first, Fifty-fourth, Ninety-eighth and Ninety-ninth House of Delegates Districts, as those districts exist on January 1, 1998."

Commission as described in this chapter. The resolution shall contain the following language:
"The (jurisdiction's governing body) does hereby agree to become a member of and participate in the Rappahannock River Basin Commission as described in Chapter 553 of the Acts of Assembly of 1998."[24]

5. Withdrawal

The RRBSC recognized that situations may arise when a basin commission member jurisdiction may wish to withdraw from participation in the ongoing body. This raised questions of whether withdrawal from the ongoing body should be allowed and, if so, on what terms.

In order to provide a degree of stability, it was agreed that withdrawal should be allowed, but only after a full year of notice. It was also agreed that the ongoing body should be empowered to dissolve itself with a two-thirds vote of all members or that it should dissolve if membership were to fall below the two-thirds required for its creation.

The RRBSC proposed the following language relating to dissolution of a continuing body for consideration by the 1998 Session of the General Assembly.

A. A locality may withdraw from the Commission one year after providing a written notice to the Commission of its intent to do so.
B. The Commission may dissolve itself upon a two-thirds vote of all members.
C. The Commission may be dissolved by repeal or expiration of this chapter.
D. The Commission shall be dissolved if the membership of the Commission falls below two-thirds of those eligible.
E. Upon the Commission's dissolution, all funds and assets of the Commission shall be divided on a pro rata basis. The Commonwealth's share of the funds and assets shall be transferred to the Office of the Secretary of Natural Resources for appropriate distribution.[25]

6. Voting

The RRBSC found that the importance of voting requirements and rights will vary greatly depending on the types of decisions that are being made. For example, a decision to call a meeting may not be as weighty as a water allocation decision. Among the many questions considered were: should each member have an equal vote; should voting be weighted by factors such as population or land area in the basin; and are there particular issues where more than a majority vote should be required.

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[24] Now found in § 62.1-69.26.
[25] Now found in § 62.1-69.32.

The commission concluded that each member should have an equal vote and that the vote needed to decide particular issues should be left to the commission to decide when organizing itself.

The RRBSC proposed the following language relating to voting by a continuing body for consideration by the 1998 Session of the General Assembly.

Each member of the Commission shall have an equal vote.[26]

7. Staffing

The RRBSC had access to a significant amount of support through hiring of the project coordinator and through the availability Division of Legislative Services staff, the Senate Finance Committee and the Senate Clerk's office. In addition, the resolutions establishing the RRBSC call on the basin's PDCs and on all state agencies to assist upon request.

After discussing the probable activities of a continuing commission, the RRBSC agreed that staffing should be provided from local government and PDC staff and that additional staff or facilitators may be hired through funds raised or provided to the commission. In addition, any statute authorizing the commission's formation should promote state agency technical assistance to the ongoing body.

The RRBSC proposed the following language relating to staffing of a continuing body for consideration by the 1998 Session of the General Assembly.

The local governing bodies and Planning District Commissions found wholly or partially in the Rappahannock River Basin shall provide staff support for the Commission as the localities determine appropriate. Additional staff support may be hired or contracted for by the Commission through funds raised by or provided to it. The Commission is authorized to determine the duties of such staff and fix staff compensation within available resources.

All agencies of the Commonwealth shall cooperate with the Commission and, upon request, shall assist the Commission in fulfilling its purposes and mission. The Secretary of Natural Resources or his designee shall act as the chief liaison between the administrative agencies and the Commission.[27]

8. Funding

Recognizing that need for funding will vary greatly depending on the selected purposes of the ongoing body and the need for staff, the RRBSC examined a number

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[26] Now found in § 62.1-69.30.

[27] Now found in § 62.1-69.31.

of different scenarios with sample budgets. A central question that also emerged was, who should be responsible for the cost. Options presented to answer this question ranged from formulaic approaches based on populations, to each member paying an equal share, to the state covering the entire cost.

After much debate, it was agreed by a majority of the members that funding should be a shared responsibility of state and local governments and that the continuing body should also be empowered to seek and raise funds from public and private sources.

The RRBSC proposed the following language relating to funding of a continuing body for consideration by the 1998 Session of the General Assembly.

A. The Commission shall annually adopt a budget, which shall include the Commission's estimated expenses. The funding of the Commission shall be a shared responsibility of state and local governments. The Commonwealth's contribution shall be set through the normal state appropriations process. The Commission's local government members shall determine a process for distribution of costs among the local government members.

B. The Commission shall annually designate a fiscal agent.

C. The accounts and records of the Commission showing the receipt and disbursement of funds from whatever source derived shall be in such form as the Auditor of Public Accounts prescribes, provided that such accounts shall correspond as nearly as possible to the accounts and records for such matters maintained by similar enterprises. The accounts and records of the Commission shall be subject to an annual audit by the Auditor of Public Accounts or his legal representative, and the costs of such audit services shall be borne by the Commission. The results of the audits shall be delivered to the chief elected officer in each of the Commission's member jurisdictions, the members of the House of Delegates and the Senate who serve on the Commission, the chairmen of the House Appropriations Committee and the Senate Finance Committee, and the Secretary of Natural Resources. The Commission's fiscal year shall be the same as the Commonwealth's.[28]

9. Other Logistical and Organizational Issues

There are a number of day-to-day and meeting-to-meeting issues such as selection of the chair, number of vice-chairs, rotation of chairs, calling of meetings, etc. that can be left to the ongoing commission to decide or which may be set out in a statute authorizing the formation of the ongoing body.

The RRBSC opted for providing the body with flexibility and proposed the following language for consideration by the 1998 Session of the General Assembly.

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[28] Now found in § 62.1-69.33 and subdivision 6 of § 62.1-69.28 for authority of the Basin Commission to seek funding services and other forms of assistance.

Develop rules and procedures for the conduct of its business or necessary to carry out its purposes and mission, including, but not limited to, selecting a chair and vice-chairs, rotating chairmanships, calling meetings and establishing voting procedures. Rules and procedures developed pursuant to this subdivision shall be effective upon an affirmative vote by a majority of the Commission members.[29]

[29] Now found in subdivision 8 of § 62.1-69.28.

APPENDICES

Appendix Number 1

SENATE JOINT RESOLUTION NO. 92

Establishing a special study panel on the Rappahannock River Basin.

Agreed to by the Senate, March 7, 1996
Agreed to by the House of Delegates, March 6, 1996

WHEREAS, the Rappahannock River is a resource of great value to the Commonwealth of Virginia and to each of the localities within the Rappahannock River Basin; and

WHEREAS, cooperation between the localities of the basin is important to the economic vitality and appropriate development of the region; and

WHEREAS, coordination of local and regional planning for the future of the area will help protect the assets of the river and strengthen the economic health of the region; and

WHEREAS, the Rappahannock River Basin region is defined as the 2,848 square miles primarily within the four planning districts of RADCO, Rappahannock-Rapidan, Northern Neck, and Middle Peninsula; and

WHEREAS, this region is characterized by areas of rapid growth and is linked by one of the Commonwealth's cleanest and most scenic rivers; and

WHEREAS, since activities in one part of the basin affect other parts of the basin, it is in the best interest of the Commonwealth to encourage and support basin-wide regional cooperation; and

WHEREAS, local governing bodies regularly face decisions that can impact other localities within the basin; and

WHEREAS, there is a need for the Commonwealth and each of the basin's localities to discuss the creation of a regional body to assist in planning for the future of the region; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That a special study panel on the Rappahannock River Basin be established. The special study panel shall be composed of such members of the Senate who shall represent the Fourth, Seventeenth, Twenty-sixth, Twenty-seventh, and Twenty-eighth Senatorial Districts and as may indicate their desire to serve on the special study panel to the Senate Committee on Privileges and Elections, and one member from the governing bodies of each county and city within the aforementioned Senatorial Districts, upon the recommendation of the respective governing bodies, all to be appointed by the Senate Committee on Privileges and Elections; and such members of the House of Delegates who shall represent the Twenty-eighth, the Thirtieth, the Thirty-first, the Fifty-fourth, the Ninety-eighth, and the Ninety-ninth House of Delegates Districts and as may indicate their desire to serve on the special study panel to the Speaker of the House, and one member from the governing bodies of each county and city within the aforementioned House of Delegates Districts, upon the recommendation of the respective governing bodies, all to be appointed by the Speaker of the House. Persons recommended to serve on the special study panel by the local governing bodies shall represent no more than one jurisdiction within the Rappahannock River Basin.

The special study panel shall examine, evaluate, and make recommendations on the potential structures and goals of a mechanism to address coordination, communication, and strategic planning on issues of basin-wide significance.

The Division of Legislative Services shall provide staff support to the special study panel. Technical and logistical assistance shall be provided by the planning district commissions encompassing the Rappahannock River Basin and the local governing bodies represented by the panel.

All agencies of the Commonwealth shall provide assistance to the special study panel, upon request.

The direct costs of this study shall not exceed $8,250. Other expenses associated with the study of regional issues facing the Rappahannock River Basin shall be funded from such funds as may be appropriated for this purpose.

The special study panel shall complete its work in time to submit its findings and recommendations to the Governor and the 1997 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

Implementation of this resolution is subject to subsequent approval and certification by the Joint Rules Committee. The Committee may withhold expenditures or delay the period for the conduct of the study.

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Appendix Number 2

SENATE JOINT RESOLUTION NO. 270

Continuing the special study panel on the Rappahannock River Basin.

Agreed to by the Senate, February 4, 1997
Agreed to by the House of Delegates, February 20, 1997

WHEREAS, the 1996 Session of the General Assembly passed Senate Joint Resolution No. 92 establishing a special study panel to examine, evaluate and make recommendations for the potential structures and goals of a mechanism to address coordination, communication and strategic planning on issues of basin-wide significance in the Rappahannock River Basin; and

WHEREAS, the panel, composed of representatives of the basin's local governments and members of the General Assembly, met at locations throughout the region; and

WHEREAS, the panel examined, discussed and compiled information on a wide variety of topics including: (i) uses made of the river; (ii) concerns regarding the current and future condition of the river and threats to the health and uses of the river; (iii) efforts made to address concerns about the river; (iv) the economy, demographics and growth in each of the four planning district commissions found in the basin; (v) numerous laws impacting the river and its resources; (vi) a number of previous studies conducted on the river and basin; (vii) examples of communication, coordination and planning efforts at the sub-basin level; and (viii) the economic importance of the river to each of the basin's localities; and

WHEREAS, the existence of the study panel has heightened awareness of the mutual as well as divergent interests in the river and has been invaluable in increasing communication and understanding among all parties; and

WHEREAS, at a public hearing held by the panel, citizens from throughout the basin presented a clear message in favor of protecting the river and providing for basin-wide communication, coordination and planning; and

WHEREAS, panel members believe that some form of a continuing basin-wide structure should be established to facilitate communication, coordination and planning for the basin; and

WHEREAS, the panel members have begun examination of the elements for inclusion in such a basin-wide structure but, due to the complexity of the issues and time constraints, have not been able to complete their discussions; and

WHEREAS, the panel members agree that the current panel should continue its work for one more year so that it may make recommendations on such a structure; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the special study panel on the Rappahannock River Basin be continued. The special study panel shall develop potential structures and goals for a mechanism to address coordination, communication and strategic planning on issues of basin-wide significance to the Rappahannock River Basin and consider appropriate roles in such a mechanism for soil and water conservation districts. The special study panel shall hold a public comment session at each of its meetings. The members duly appointed pursuant to Senate Joint Resolution No. 92 (1996) shall continue to serve, except that any vacancies shall be filled as provided in the enabling resolution. Staffing shall continue to be provided by the Division of Legislative Services and technical and logistical assistance shall be provided by the planning district commissions encompassing the Rappahannock River Basin and the local governing bodies represented by the panel.

To assist the study, the special study panel may consult with relevant federal agencies, including the Environmental Protection Agency and the United States Army Corps of Engineers. All agencies of the Commonwealth shall provide assistance to the special study panel, upon request.

The direct costs of this study shall not exceed $11,800. Other expenses associated with the study of regional issues facing the Rappahannock River Basin shall be funded from such funds as may be appropriated for this purpose.

The special study panel shall complete its work in time to submit its findings and recommendations to the Governor and the 1998 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

Implementation of this resolution is subject to subsequent approval and certification by the Joint Rules Committee. The Committee may withhold expenditures or delay the period for the conduct of the study.

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Appendix Number 3

RAPPAHANNOCK RIVER BASIN STUDY COMMISSION

RESOLUTION

At the December 3, 1997 meeting of the Rappahannock River Basin Study Commission, held in Senate Room B of the General Assembly Building in Richmond, Virginia the following was adopted:

WHEREAS, the Commonwealth, through the multi-state Chesapeake Bay Agreement, has committed to the reduction of nutrients entering the Chesapeake Bay and its tributaries to aid in the restoration of living resources; and

WHEREAS, the Rappahannock River Basin Study Commission has received testimony on, and has discussed, the impacts of over-enrichment, pathogens and sediment loading and the benefits of reducing these pollutants in the basin's waterways; and

WHEREAS, there are many negative impacts on water quality due to over enrichment including poor water clarity, reduction in under water grasses and inferior habitat for commercially and recreationally important species; and

WHEREAS, reducing nutrients will not only improve the living resources and water quality of the Rappahannock River basin and its tributaries and all the communities in the Rappahannock River basin, but also will have benefits for the water quality and living resources of the Chesapeake Bay; and

WHEREAS, there are voluntary and incentive-based steps that all who live and work in the Rappahannock River basin can take to assist in fulfilling the basin community's desires and goals for improved water quality at the same time fulfilling the Commonwealth's commitment to the Chesapeake Bay Agreement, now, therefore, be it

RESOLVED by the Rappahannock River Basin Study Commission that all who reside or work in the Rappahannock River basin be encouraged to make concerted efforts to reduce the amount of pollutants that reach the basin's waterways.

- Farmers are encouraged to review and modify their tillage and nutrient management practices in order to reduce nutrient contributions from sediments and leaching to the area's waterways.
- Livestock and poultry producers are encouraged to review their waste management facilities and practices and to take necessary steps to protect water quality.
- Residential and commercial developers are encouraged to adopt innovative designs and sound techniques which will minimize nutrient contributions to our waterways during and after construction.
- Homeowners are encouraged to use environmentally sound fertilization practices to ensure that their lawn maintenance efforts do not result in excess nutrients in their local waterways and the Rappahannock River..
- Utility managers and other appropriate staff in the basin's localities are encouraged to meet for the purpose of discussing, identifying and implementing methods to further lessen the contribution of point source nutrients to the Rappahannock River.

- Those who own private point sources of nutrients are encouraged to examine and implement methods to reduce their nutrient contribution as well.
- Local governments should ensure that urban development, roads and infrastructure are appropriately placed and managed to minimize impacts on water quality.

A copy of this Resolution shall be transmitted to each locality in the Rappahannock River basin with the request that it be communicated to appropriate local officials and organizations.

As adopted 12-3-97
by unanimous vote.

Appendix Number 4

CHAPTER 553

An Act to authorize the creation of a Rappahannock River Basin Commission.

[S 598]

Approved April 15, 1998

Whereas, the Rappahannock River is a resource of great value to the Commonwealth of Virginia and to each of the localities within the Rappahannock River Basin; and

Whereas, members of the General Assembly and representatives of each of the local governments representing jurisdictions in the Rappahannock River Basin have met pursuant to Senate Joint Resolution No. 92 (1996) and Senate Joint Resolution No. 270 (1997) for two years as the Rappahannock River Basin Study Commission (RRBSC) to examine, evaluate and make recommendations on the potential structure, goals and purposes of a mechanism to address coordination, communications and planning on issues of river basin-wide significance; and

Whereas, the RRBSC has found that (i) there is a need for a mechanism for coordination and communication for the multitude of individual, local, state and federal activities that influence the Basin's natural resources; (ii) there is a need for easily accessible information for decision making at the public policy level as well as at the individual level; (iii) the environmental health of the Basin directly impacts economic health; and (iv) there are great benefits to be derived from the Basin's localities' meeting together and discussing their individual and mutual concerns; and

Whereas, to help address these findings (i) there should be a continuing commission composed of elected officials from throughout the Basin; (ii) such a commission should not be a regulatory body; and (iii) there should be a concise mission statement with emphasis on stewardship, protection and enhancement of the Basin's water quality and other natural resources; and

Whereas, the RRBSC has developed legislation to address these findings and to provide for establishing a Rappahannock River Basin Commission; and

Whereas, the creation of such a commission will be of great benefit to the Commonwealth by promoting better communication, assisting in achieving improved water quality and natural resources, and meeting its commitments under the Chesapeake Bay Agreement; now, therefore,

Be it enacted by the General Assembly of Virginia:

1. *§ 1. Definitions.-*

As used in this act, unless the context requires a different meaning:

"Rappahannock River Basin" means that land area designated as the Rappahannock River Basin by the State Water Control Board pursuant to § 62.1-44.38 and which is also found in the Fourth, Seventeenth, Twenty-fifth, Twenty-sixth, Twenty-seventh and Twenty-eighth Senatorial Districts or the Twenty-eighth, Thirtieth, Thirty-first, Fifty-fourth, Ninety-eighth and Ninety-ninth House of Delegates Districts, as those districts exist on January 1, 1998.

§ 2. Rappahannock River Basin Commission; establishment.

The Rappahannock River Basin Commission, hereinafter referred to as the "Commission," shall be established upon passage by two-thirds of the Rappahannock River Basin's localities of a resolution that commits them to participate in the Commission as described in this act. The resolution shall contain the following language:

"The (jurisdiction's governing body) does hereby agree to become a member of and participate in the Rappahannock River Basin Commission as described in Chapter (to be determined upon passage) of the

Acts of Assembly of 1998."

§ 3. Commission purposes and mission.

The Commission's purposes and mission shall be to provide guidance for the stewardship and enhancement of the water quality and natural resources of the Rappahannock River Basin. The Commission shall be a forum in which local governments and citizens can discuss issues affecting the Basin's water quality and quantity and other natural resources. Through promoting communication, coordination and education, and by suggesting appropriate solutions to identified problems, the Commission shall promote activities by local, state and federal governments, and by individuals, that foster resource stewardship for the environmental and economic health of the Basin.

§ 4. Rappahannock River Basin Commission powers.

A. The Commission shall have no regulatory authority.

B. To carry out its purposes and mission, the Commission shall have the power to:

1. Communicate, including through legislative recommendations, Commission views to local, state and federal legislative and administrative bodies, and to others as it deems necessary and appropriate.

2. Undertake studies and prepare, publish and disseminate information in reports and in other forms related to the water quality and natural resources of the Basin and to further its purposes and mission.

3. Enter into contracts and execute all instruments necessary or appropriate.

4. Perform any lawful acts necessary or appropriate.

5. Establish a nonprofit corporation as an instrumentality to assist in the details of administering its affairs and in raising funds.

6. Seek, apply for, accept and expend gifts, grants and donations, services and other aids, from public or private sources. Other than those from member jurisdictions and those appropriated by the General Assembly, funds may be accepted by the Commission only after an affirmative vote by the Commission or by following such other procedure as may be established by the Commission for the conduct of its business.

7. Establish balanced advisory committees that may include representation from agricultural, environmental, resources-based, industrial, recreational, riparian landowner, development, educational and other interests as it deems necessary and appropriate.

8. Develop rules and procedures for the conduct of its business or necessary to carry out its purposes and mission, including, but not limited to, selecting a chair and vice-chairs, rotating chairmanships, calling meetings and establishing voting procedures. Rules and procedures developed pursuant to this subdivision shall be effective upon an affirmative vote by a majority of the Commission members.

§ 5. Membership.

A. The membership of the Commission shall be as follows:

One member from each of the elected governing bodies of the jurisdictions found wholly or partially within the Rappahannock River Basin that, at any time, pass a resolution containing the language required by § 2. Each local governing body shall select its representative and an alternate in such manner as it decides. A local government representative's term shall be for a minimum of one year but shall not extend beyond his elected term.

One member shall be a representative of the Soil and Water Conservation Districts found wholly or

partially within the Rappahannock River Basin. The representative and an alternate shall be selected from the elected members of the Basin's Soil and Water Conservation Districts in a manner agree upon by the Basin's Districts. The Soil and Water Conservation District representative's term shall be for a minimum of one year but shall not extend beyond his elected term.

Representation from the Senate and the House of Delegates shall be composed of those members of the Senate and House whose districts include a portion of the Rappahannock River Basin and who express their desire to be a Commission member to the Senate Committee on Privileges and Elections or to the Speaker of the House as appropriate for their respective chambers. Senate and House members' terms on the Commission shall coincide with their terms as members of the General Assembly or until they express a desire to no longer be a Commission member to the Senate Committee on Privileges and Elections or to the Speaker of the House as appropriate for their chambers.

B. Vacancies shall be filled in the same manner as the original selection.

§ 6. Voting.

Each member of the Commission shall have an equal vote.

§ 7. Staffing and support.

The local governing bodies and Planning District Commissions found wholly or partially in the Rappahannock River Basin shall provide staff support for the Commission as the localities determine appropriate. Additional staff support may be hired or contracted for by the Commission through funds raised by or provided to it. The Commission is authorized to determine the duties of such staff and fix staff compensation within available resources.

All agencies of the Commonwealth shall cooperate with the Commission and, upon request, shall assist the Commission in fulfilling its purposes and mission. The Secretary of Natural Resources or his designee shall act as the chief liaison between the administrative agencies and the Commission.

§ 8. Withdrawal; dissolution.

A. A locality may withdraw from the Commission one year after providing a written notice to the Commission of its intent to do so.

B. The Commission may dissolve itself upon a two-thirds vote of all members.

C. The Commission may be dissolved by repeal or expiration of this act.

D. The Commission shall be dissolved if the membership of the Commission falls below two-thirds of those eligible.

E. Upon the Commission's dissolution, all funds and assets of the Commission shall be divided on a pro rata basis. The Commonwealth's share of the funds and assets shall be transferred to the Office of the Secretary of Natural Resources for appropriate distribution.

§ 9. Funding.

A. The Commission shall annually adopt a budget, which shall include the Commission's estimated expenses. The funding of the Commission shall be a shared responsibility of state and local governments. The Commonwealth's contribution shall be set through the normal state appropriations process. The Commission's local government members shall determine a process for distribution of costs among the local government members.

B. The Commission shall annually designate a fiscal agent.

C. The accounts and records of the Commission showing the receipt and disbursement of funds from whatever source derived shall be in such form as the Auditor of Public Accounts prescribes, provided that such accounts shall correspond as nearly as possible to the accounts and records for such matters maintained by similar enterprises. The accounts and records of the Commission shall be subject to an annual audit by the Auditor of Public Accounts or his legal representative, and the costs of such audit services shall be borne by the Commission. The results of the audits shall be delivered to the chief elected officer in each of the Commission's member jurisdictions, the members of the House of Delegates and the Senate who serve on the Commission, the Chairmen of the House Appropriations Committee and the Senate Finance Committee, and the Secretary of Natural Resources. The Commission's fiscal year shall be the same as the Commonwealth's.

2. That the provisions of this act shall expire on July 1, 2000, and the funds and assets of the Commission shall be distributed in accordance with subsection E of § 8.

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Appendix Number 5

SENATE JOINT RESOLUTION 92
RAPPAHANNOCK RIVER BASIN STUDY

OUTLINE OF
"LAWS AND REGULATIONS GOVERNING THE RIVER"

I. The Virginia Constitution, Article XI (page 1)

II. Common law riparian doctrine (pages 1 through 4)
- A. Surface water
- B. Ground water
- C. Public supply of water
- D. Dispute resolution

III. Local governments statutory power to supply water (pages 4 and 5)

IV. Federal acts "governing the river" (pages 5 through 7)
- A. Federal Water Pollution Control Act
- B. Safe Drinking Water Act
- C. Coastal Zone Management Act

V. State statutory water supply programs (pages 7 through 13)
- A. State Water Control Board: Water supply and policy
- B. State Water Control Board: Water management "plans and programs" for river basins, planning assistance
- C. State Water Control Board: Surface Water Management Areas
- D. State Water Control Board: Ground Water Management Act of 1992
- E. Virginia Department of Health: Drinking water supplies and waterworks
- F. Virginia Department of Health: Viability of water facilities
- G. Virginia Resources Authority: Virginia Water Supply Revolving Fund

VI. State water quality statutory provisions (pages 13 through 26)
- A. Policy statements: The State Water Control Law and authority over water
- B. State Water Control Board: General Powers and duties
- C. State Water Control Board and Department of Environmental Quality: Water quality provisions
  1. Virginia Pollution Discharge Elimination System permits
  2. Water quality standards
  3. Virginia Pollution Abatement permit

Rappahannock River Basin Study Commission
Sample Resolution on Fish Passage at Embrey Dam

Urging that local, state and federal efforts be undertaken as expeditiously as possible to assure that fish passage is achieved at Embrey Dam.

WHEREAS, the Embrey Dam in the Rappahannock River above Fredericksburg was built in 1910 to divert water to that City's water treatment plant; and

WHEREAS, the City of Fredericksburg and the County of Spotsylvania are building a new water treatment plant that will supplant the need for Embrey Dam; and

WHEREAS, Embrey Dam blocks the passage of many species of commercially and recreationally valuable migratory species of fish including rockfish, shad and herring; and

WHEREAS, providing fish passage at Embrey Dam would open hundreds of river miles of additional spawning area and habitat to these valuable species leading to an increase in their numbers; and

WHEREAS, increasing habitat for these species will have benefits for the natural resources of not only the Rappahannock River but also for its tributaries and areas in other parts of Virginia as well; and

WHEREAS, fish passage will benefit economies through increased recreational and commercial fisheries everywhere in the basin and in other parts of the Commonwealth by allowing migratory fish to reach areas above the dam and by increasing their numbers below the dam including in the Chesapeake Bay; and

WHEREAS, as a community that is part of the Rappahannock River basin community of jurisdictions it is important to support efforts that will have beneficial consequences throughout the basin even though the action to be taken may not be in this jurisdiction;

NOW, THEREFORE, BE IT RESOLVED this ___ day of _____, 1997, that the Board of Supervisors of _____ does hereby express its support for federal, state and local efforts to provide fish passage at Embrey Dam and expresses its encouragement that such efforts proceed as expeditiously as possible taking into consideration the local and basin-wide needs, implications and benefits; and

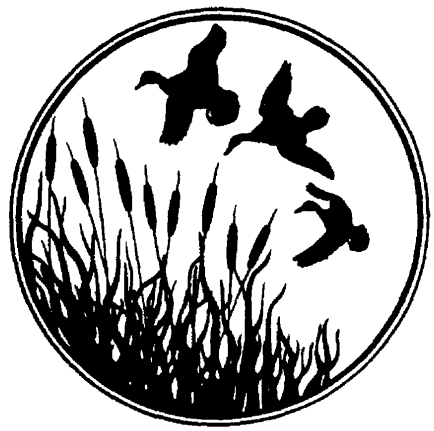
BE IT FURTHER RESOLVED, that the Commonwealth of Virginia is hereby requested to participate in and contribute resources for efforts to provide fish passage at Embrey Dam and to work closely with the localities of the Rappahannock River Basin in doing so.

#

It Is Time To

The First Conference and Summit on the Rappahannock River Basin

Come Together



August 20, 1997
Walker-Grant Middle School, Fredericksburg, Virginia
8:30 a.m. to 4:00 p.m.

"I have the optimistic faith that the more people are informed and educated, the better opportunity they will have to make good decisions. Our mission is to encourage cooperation and communication along the river, to encourage dialogue among th[illegible]lities."

Senator R. Edward Houck, Chairman
Rappahannock River Basin Study Commission

"Planning for the environment must be based on solid research, we donít have resources to waste on ineffective efforts. Environmental and economic planning must be undertaken together."

Butch Jenkins, Board of Supervisors Lancaster County
Member Rappahannock River Basin Study Commission

"The river continues to flow. It doesn't stop. There will always be ongoing issues to take care of."

Jerry Logan, Board of Supervisors,
Spotsylvania County
Member Rappahannock River Basin Study Commission

"We're moving toward having one voice, the Rappahannock River voice."

Doris Lackey, Board of Supervisors,
Madison County
Member Rappahannock River Basin Study Commission

As elected officials from across the Rappahannock Basin have said, it is time to come together to learn about and discuss the issues that face the people and decision makers of the basin.

[illegible] time to consider how best to address, through the many different governing bodies, the most effective and efficient ways to consider the policy questions that will impact the economic and physical environment of our river basin. For this reason the Rappahannock River Basin Study Commission and the basin's Soil and Water Conservation Districts, through the Rappahannock Conservation Council, are sponsoring the First Conference and Summit on the Rappahannock River Basin.

The Audience:

The conference will be open to all audiences, however the principal audience will be members of local governing bodies within the Rappahannock River Basin, the chief administrative officer and key planning staff for the localities and members of the General Assembly who represent the people living in the basin. The Summit's focus will be an exchange of information among these policymakers. Other interested parties are invited to participate in the conference discussion and provide input.

The Goal:

For participants to gain a better understanding of river related concerns, including water quality protection and enhancement; to discuss the importance of addressing concerns and developing solutions from a basinwide perspective; to present techniques to address these concerns and set the stage for future educational opportunities on the specifics of such techniques.

The Program:

8:30 - 9:15 a.m. **Registration**

Exhibit Area Open— Exhibits and information from agencies and organizations concerned with the future of the Rappahannock River will be displayed for the conference participants.

9:15 a.m. **I) Opening Session — Why is a Summit on the Rappahannock River Necessary?**

A summary of why we are here; what has been accomplished to date by the Rappahannock River Basin Study Commission and what is needed to move forward on protecting the economic and environmental health of the Rappahannock River and the localities of the basin.

Speakers:
Senator R. Edward Houck, Chairman Rappahannock River Basin Study Commission
H. William Greenup, Mayor, City of Fredericksburg

9:35 a.m. **II) Background — A Characterization of the River Basin: its Physical and Economic Environment.**

A visual description of the diverse physical and economic environment of the Rappahannock Basin.

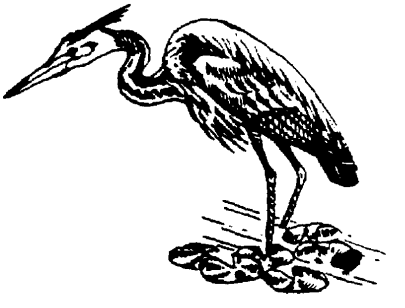
Speakers:
Jim Byrne, Chairman, Rappahannock Conservation Council
Danielle Deemer, RADCO

10:00 a.m. **III) Existing Water Quality & River Protection Concerns.**

A panel discussion summarizing the concerns facing the Rappahannock River Basin as seen by members of the Rappahannock River Basin Study Commission.

Panel Members:

Joanne Burkholder,
Greene County Board of Supervisors
Kenneth Wayne Williams,
Middlesex County Board of Supervisors
H. William Greenup,
Mayor, City of Fredericksburg
Moderator: *Eldon James*



10:45 a.m. **IV) Break Out Sessions (Each participant may choose one of the three breakout sessions):**

Session A: **The Chesapeake Bay Program & Tributary Strategies**

A presentation that overviews the history of the Chesapeake Bay Program and the objectives of the Tributary Strategy initiative.

Panel Members:

Melanie Davenport, **Virginia Director Chesapeake Bay Commission**
Billy Mills, **Mattaponi-Pamunkey Rivers Association**
Moderator: *Collin Powers*, **Department of Environmental Quality**

Session B: **Multiple Uses of the Riparian Zone**

F ın zones have multiple uses including erosion control, conservation, wildlife
ɾs and forested buffers. This session will review the many water quality, recreational, habitat and economic benefits of a well managed riparian zone.

Speaker:
Mike Foreman, Virginia Department of Forestry

Session C: **Best Management Practices: Basinwide Nonpoint Source Pollution Efforts and Innovative Techniques**

A discussion of urban and agricultural nonpoint source pollution reduction efforts, innovative techniques and a review of individual practices that can support locally implemented programs.

Panel Members:

Andrea Ryon, **CH2M Hill**
Dana Bayless, **Department of Conservation & Recreation**
John Tippett, **Friends of the Rappahannock**
Moderator: *Debbie Cross*, **Department of Conservation & Recreation**

11:30 a.m. **Lunch on the Banks of the Rappahannock and Tour of the Embrey Dam**

1:30 p.m. **V) General Session — The Power and Impact of Land Use Decisions in the Rappahannock River Basin**

A ıtive land use choices and how local decisions will effect the
F ıannock River's water quality.

Speaker:
Delegate W. Tayloe Murphy, Jr., Author of the Water Quality Improvement Act of 1997.

2:15 p.m. **VI) An Ongoing Rappahannock River Basin Commission: Discussion of the potential economic and environmental benefits, goals and structure.**

(i) Comments by RRBSC members on the economic and environmental benefits.
(ii) Outline of the potential goals.
(iii) The presentation of a sample structure as outlined and discussed at the July 2 RRBSC meeting.
(iv) Facilitated discussion, involving all participants, on goals, issues and concepts of the potential structure.

The Rappahannock River Basin Study Commission will convene to conduct this portion of the program with the assistance of the Commission's staff, and a facilitator. This represents the "Summit" portion of the program with all attendees encouraged to participate in the discussion.

4:00 p.m. **Adjourn**

ire: We will be spending the middle of the day at
site on the Rappahannock River. Comfortable,
casual attire is recommended.

The Sponsors:

With a concern for protection and enhancement of the river, **The Rappahannock River Basin Study Commission** was created by the Virginia General Assembly to study the need for improved communication and coordination between the jurisdictions, on issues of basinwide importance and make recommendations to the General Assembly on the need and value of an ongoing body to fulfill this mission.

The Rappahannock Conservation Council is a cooperative effort of the basin's seven Soil and Water Conservation Districts and was created to help in efforts to reduce nutrients entering the Rappahannock River and educate citizens about nonpoint source pollution.

The four Planning Districts of the Rappahannock basin, **Rappahannock-Rapidan, RADCO, Northern Neck and Middle Peninsula,** each provided staff support in all aspects of conference planning.

The Sponsors would like to thank the staffs of the Division of Legislative Services, the Department of Environmental Quality, the Department of Conservation and Recreation. Without their help, this program would not be possible.

RAPPAHANNOCK RIVER BASIN COMMISSION
Responses by Locality on Efforts, Uses and Concerns

Appendix Number 8

Efforts

	Activity	Organization	Points of Concern
Rappahannock	1. Foot of the Mountain Run Clean-up (May 1996)	Rappahannock League for Environmental Protection (RLEP)	Pollution on upper Rappahannock
	2. Groundwater quantity evaluation Sperryville, VA (July 1996)	ENSAT, Inc.	Water resources in Sperryville on the Thornton River
	3. Household Drinking Water Testing Program (1990-91)	Rappahannock County	Drinking water resources in the County
Fauquier County	1. Tier III designation	County	Long term water quality protection
	2. Storm water management	County	Water quality
	3. Surface Water Quality Protection Multi-phased Program	County	Urban/suburban/agricultural phased-in water quality protection effort
	4. Clean up	Southern Fauquier Business Owners	River cleanup
	5. Clean up	Float Fishermen of Virginia	Clean-up near Remington
	6. Clean-up; research/monitoring	E-coli Awareness Research Team Helpers ("EARTH")	Identify source of pollution of Deep Run Creek

	Activity	Organization	Points of Concern
City of Fredericksburg	1. Semiannual cleanups	Friends of the Rappahannock (FOR)	Clean-up
	2. Study	Mary Washington College	Research
	3. Cleanup	Ragged Mountain Resource Center	Clean-up
Spotsylvania	1. River protection overlay zone	Spotsylvania County Department of Planning	Lot size and activities along the river
	2. Water conservation program	County	Water conservation
	3. Active erosion and sediment control program	County	Erosion and sediment
	4. Millions spent to upgrade/expand wastewater treatment plants	County	Wastewater treatment compliance
Caroline	1. Ambient/biological monitoring	Alliance for the Chesapeake Bay	
	2. Wetlands	Army Corps of Engineers	
	3. Monitoring, protection	DEQ, Isaac Walton League, National Park Service	
Essex	1. Education and recreation events, community advocate	Friends of the Rappahannock, Chesapeake Bay Foundation, Chesapeake Bay Local Assistance Board	
	2. Industry protection	Seafood Association	

	Activity	Organization	Points of Concern
Richmond County	1. Land use regulations including zoning, subdivision, wetlands, CBPA, site plan, flood plain management, and solid waste disposal ordinances. Compliance, enforcement, and education.	County	Impacts of land use on environmental quality.
	2. National Wildlife Refuge. The first parcel for the refuge is 1125 acres in the County. Other areas that fit the criteria for inclusion are shown as conservation areas on the County Future Land Use Plan.	County, USFWS, and many others	Development and preservation of a national wildlife refuge.
	3. Multi-jurisdictional communication for long term strategies.	Rappahannock River Resources Council	Long term planning for mutually beneficial environmental protection and growth.
	4. Identify water quality problems and solutions.	Cat Point Creek Watershed Project and Citizen group from two jurisdictions.	Improvement of the water quality of this Rappahannock River tributary. Integrated crop management planning.
	5. Shoreline, woodland and farmland conservation efforts on property fronting Menokin Bay along Cat Point Creek.	The Menokin Trust	Restoration of house and lands to provide long term educational opportunities for conservationists and preservationists.

	Activity	Organization	Points of Concern
Lancaster	1. Comprehensive plans updated with: a) Protection plan for potable water supply	County of Lancaster	Reservoirs feed streams and creeks flowing into the river
	b) Shoreline protection plan		Erosion
	c) Land development plan		Identifying areas with special ecological concerns
	2. Funding sought for waste oil collection		
	3. Created environmental planner position		Water quality of river and bay
	4. Land Development Code a) Bay Preservation Act b) High level of erosion and sediment control enforcement c) Septic system backup sites d) Restricts waterfront density and near-wetland development e) Wetlands board f) Citizen Bay/River awareness program		
	5. Establishment of an oyster reef	Rappahannock Preservation Society	Re-establishment of oysters

	Activity	Organization	Points of Concern
Middlesex County	1. Land use and development regulation including zoning, subdivision, floodplain, wetland, CBPA, E&S, shoreline protection ordinances and measures.	County	Land use impact on water quality, habitat and natural resources.
	2. Technical assistance to land owners	County	Water quality degradation prevention
	3. Hiring additional staff and "Environmental Enforcement Specialist"	County	Address citizens concerns and complaints related to the Rappahannock River.
	4. Sustainable development/environmental protection	Rappahannock River Resources Council	Long term planning for mutually beneficial environmental protection and economic development
	5. Weekly water quality sampling	Friends of Urbanna Creek	Maintenance and protection of water quality.

Uses

	Type of Use	User or User Group
Rappahannock	1. Drinking water	Residential users
	2. Livestock water	Large number of users
	3. Irrigation	Small number of users, located primarily on tributaries rather than on the river.
	4. Recreation	Fishing, boating (non-power)
	5. Habitat	Fish, amphibians, waterfowl, etc.
	6. Sewage discharge	Only one STP discharge reaching the Rappahannock (on the Thornton River)
	7. Scenery	Residents and tourists--aesthetic and economic resource
City of Fredericksburg	1. Recreation	Fishermen, canoeists, kayakers, hikers, bikers, swimmers, campers
	2. Water supply	See page 51 of River Watershed Plan
	3. Wastewater discharge	See page 34 of River Watershed Plan
Fauquier County	Water supply Parks Fishing Access points Picnicking Historic canal (from Fredericksburg to Waterloo) Greenway/Trail System Plan for biding/hiking with historic canal, mill, and village parks along river as attraction. Potential white water park at Kelly's Ford.	Citizens

	Type of Use	User or User Group
Spotsylvania	1. Drinking water	County and City of Fredericksburg
	2. Recreation	Citizens
	3. Wastewater discharge	
King George	1. Recreational boating	Wilmont Landing and other private launches, citizens
	2. Waterfowl refuge	Lands End Waterfowl Refuge, citizens
	3. Barge traffic	Sand and gravel operators
	4. Cooling water	S.E.I.
	5. Irrigation	Farms
	6. Water source	White Packing
	7. Sand and gravel source	Various operations on lands beside river
Caroline	1. Recreation	
	2. Water withdrawals	
	3. Discharges and monitoring	
	4. Habitat, endangered species	
Westmoreland	1. Public and private recreation	Leedstown Campground, Westmoreland Berry Farm, Voorhees Nature Preserve, Smith Mont Landing Boaters, skiers, swimmers, hikers, birders, hunters, fishermen, commercial river cruises
	2. Irrigation	Agriculture

	Type of Use	User or User Group
Essex	1. Sport fishing	Citizens and tourists
	2. Oyster raising, crabbing, fishing	Watermen
	3. Grain elevator, grain transportation	Perdue, Inc. and farmers
	4. Captain Thomas Cruise Boat	Citizens and tourists
	5. Marinas	
	6. Relaxation, swimming, boating	Citizens and tourists
	7. Permitted discharges into river to promote industrial use	Commercial, public
Richmond County	Seafood harvesting Barge transportation Tour and excursion craft Waste water discharge Marina, Launches Swimming beach (fee) Campgrounds Boating and fishing Swimming, walking, hiking and bird watching Waterfowl hunting Aesthetics Boating access Public boat and canoe launches and docks The Rappahannock River National Wildlife Refuge will provide additional access and educational opportunities as land is acquired and plans adopted for management.	Citizens

	Type of Use	User or User Group
Lancaster	Recreation (public and private)* Seafood and commercial fishing* Tourism and travel* *see appendix 1	
Middlesex	1. Marinas 2. Seafood Industry 3. Aquaculture 4. Public landings 5. Campgrounds 6. Recreational boating, fishing and hunting 7. Tourism	10 marinas listed 8 industries listed 27 soft shell crab shedding operations listed 19 locations listed 4 locations listed citizens citizens

Concerns

	Concerns
Rappahannock	1. Drinking water resource protection 2. Recreational resource 3. Habitat protection 4. Agricultural use protection 5. Economic development opportunities Rappahannock County's concerns about the river resources are manifold and interrelated. While none of our designated growth areas is located on the Rappahannock, several are located on its tributaries. The needs of present and future residents are tied up with concerns of protection of habitat, tourism opportunities, agricultural users and economic development. In fact, the only form of economic development that the County promotes is tourism-related. These uses are of uniformly low intensity and depend for their livelihood, in turn, on the protection of the riverine system as well as other attributes of the rural landscape. The preservation of the quality of the aquatic resource, its habitat, recreation and agricultural use values is viewed as being inextricably linked to the expansion of our tourism industry.
City of Fredericksburg	1.Nonpoint source pollution including sedimentation and nutrient loading. 2. Point source pollution remains of continued concern to the City of Fredericksburg. Specifically, a petroleum pipeline rupture in the watershed or a roadway accident that results in a chemical spill into the river will both threaten the city's raw water supply. We are currently involved in developing cooperative water agreements in this region. As a consequence, the above hazards will become of more immediate concern to Spotsylvania and Stafford Counties in the future.

	Concerns
Fauquier County	The County wishes to preserve the Rappahannock River and its natural beauty and seeks along with the Rappahannock River Watershed Planning Groups to seek regional solutions to the river's problems and the competing goals of the Rappahannock's uses. The County is concerned about the impact of TIER III designation on future expansion of discharges such as those from the Remington Wastewater Treatment Plant as well as the unknown/yet-to-be-determined impact on future water withdrawals.
Spotsylvania	1. Wastewater discharges upstream 2. Nonpoint source pollution 3. Interbasin transfer of water 4. Increased water withdrawal upstream and its impact on the county water supply. 5. Tier 3 designation 6. Any new regulations that restrict the localities' ability to utilize the rivers as a source of drinking water 7. The integrity of the Colonial Petroleum pipeline and the impact on the river of future spills 8. Future highway crossings of the river and the inclusions of adequate facilities to protect drinking water supplies from contamination
King George	1. Ability to use as a drinking water supply 2. Ability to maximize potential economic benefits 3. Ability to maintain long term river quality 4. Local control, mandates

	Concerns
Caroline	1. Water quality 2. Land development should be in harmony with natural environment 3. Education, restoration and maintenance of the beauty and quality of the Basin 4. Involvement of all localities and agencies in the basin 5. Activities that occur in and around the basin will have a direct effect on everyone downstream. Clean water seems to be the ultimate concern. We hope that the environmental regulations, especially water regulations will not be relaxed. If development occurs along the river, it should do so in harmony with the natural environment. Extended buffering, in addition to the bay regulations, shielding and development that will enhance the river basin, one that is environmentally friendly. There may be some 319, 604b, Chesapeake Bay Local Assistance Dept., Soil and Water Conservation, and Department of Environmental Quality grants that have been awarded to educate, help restore, and maintain the beauty and pristine quality of the basin. Also, in order to conduct a comprehensive study that is valuable, one would need to include all the localities and agencies along the Rappahannock basin. Many activities that occur in and along the basin will have a direct effect on everyone downstream. Therefore, all localities along the basin must be included in order to accomplish the objectives set forth to enhance, maintain, and beautify the Rappahannock River basin.
Essex	Cleanliness of the water (lower Essex is very developed while the upper portion has low development).

	Concerns
Richmond County	1. A major concern for the County is the potential for increased erosion, stormwater discharge, surface and ground water withdrawal and shoreline erosion from increased boat traffic associated with upstream development. While regulations are in place, the level of growth increase, particularly in the Fredericksburg area, is of particular concern. 2. The County relies solely on ground water for its drinking water supply. Ground water must be protected during plan review process particularly in a small rural county like Richmond where permitting criteria and cost make the construction and maintenance of impoundment virtually impossible. 3. Many traditional seafood-related industries that were a strong component of the county's economic base are no longer viable. Everything possible should be done to maintain and improve water quality to levels that support the return of finfish and shellfish stocks to former levels of abundance. "Perhaps the Rappahannock as a whole needs to be treated like the striped bass -- sometimes we have to just say no -- until techniques are in place to adequately ensure that the resources is sustainable."

	Concerns
Lancaster	1. Water Quality Protection a) Power based in more developed and populated areas will prevent full and fair evaluation of upstream impacts on lower basin water quality. b) Insufficient attention to study of causes of diminishing river seafood stock. 2. Overzealous effort to support popular concept of natural resource protection will lead to well-intended, but costly and ineffective, new restrictions based on inconclusive or incomplete scientific study. 3. Insufficient study emphasis on the effects of storm water run-off and sewage treatment plant effluents, and possible over emphasis on effects of agricultural land run-off. 4. As has often happened with provisions of the Chesapeake Bay Protection Act, local and regional anti-growth interests will be allowed to seize river basin initiative to promote "No Growth" strategies under the guise environmental protection efforts. 5. Potential for unreasonable use limitations created by over-regulation. a) Limitations to private enjoyment and use such as restricted sport/recreational boating. b) Potential for new regulations which would further threaten the ability to revitalize now dormant seafood industry sites. 6. Water quality monitoring that may arise from this initiative will not be sufficiently localized to determine specific pollution source points. External pollution sources will not be sufficiently analyzed. 7. Down river jurisdictions will suffer use restrictions based on the cumulative effect of upstream uses/abuses for which these jurisdictions have no responsibility and can provide no cure. 8. Legislative reaction to the river basin initiative will result in more unfounded mandates to local governments.

	Concerns
Westmoreland	1. Habitat protection. Oysters have played a central role in the local economy and in the protection of water quality. A wide variety of activities and sources of contaminates have a negative impact on not only oyster survival and habitat but on all components of sensitive ecosystems. A balance between progressive development and water quality must be achieved. 2. Economic development opportunities. Waterfront commercial development is recognized as a central element in the county's long term economic growth, but such growth should not overwhelm an area and preferably should be located in areas where such uses already exist. 3. Agricultural use protection. The industry should be preserved and enhanced in such a manner that it does not threaten the Rappahannock. Agricultural chemicals should be utilized only to the extent that the negative effects to the river do not exceed their benefits. BMPs should also be implemented. 4. Forestry use protection. With approximately 60 percent of the county in forest land, forestry has been one of the top three economic engines for the area. It is important that this industry continue, but the integrity of the Rappahannock must be considered with each forestry effort including the use of BMPs and the reforestation erodable soils.

	Concerns
Soil and Water Conservation Districts	1. Inflows to river from point sources and nonpoint sources. Cumulative effects of pollution sources can be devastating. 2. Withdrawals of water from river to sustain burgeoning population growth - the short and long term impact on the river. 3. Benefits/risks analysis - Concern that decisions that affect the river by landusers and governments are being made without comprehensive benefits/risks analysis - that the river is seen as a resource which simply runs by and the impacts we make on water quality are of little consequences to us personally. Concern that there is little conscious effort to place our downstream neighbors near the top of a priority list before we make decisions which impact the Rappahannock. 4. That the vigilance needed by landusers and governments on the Rappahannock to develop and maintain a strategy of protection for the entire basin will be lacking due to a constant turnover in elected governments and a rapidly growing and changing population. Adherence to river protection principles must be a sustainable endeavor with long-term goals.