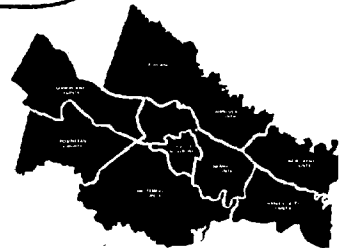


**ENVIRONMENTAL ACCOMPLISHMENTS
AND NEEDS ASSESSMENT
FOR THE RICHMOND REGION**

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Prepared by
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INTRODUCTION

In early 1988, the Richmond Regional Planning District Commission staff prepared a report entitled Coastal Resources Management Needs Assessment and Program for the Richmond Area. That document provided an overview of the Virginia Coastal Resources Management Program and the Chesapeake Bay Agreement. In addition, it examined coastal resource issues and state and federal programs that were then available to address these issues.

An important element of that assessment was the establishment of goals and objectives for the Richmond Regional Coastal Resources Management Program. That assessment was done for the region as a whole and for the individual coastal localities within the region. The localities included in the assessment were the counties of Charles City, Chesterfield, Hanover, Henrico and New Kent, and the City of Richmond.

Based upon the established goals and the region's needs, an implementation program for meeting these needs was developed. The RRPDC has used this implementation program as a framework for developing regional and technical assistance work activities for its annual Work Program, including the Coastal Resources Management Program. The implementation program has also been used by localities in the region to develop local Coastal Resources Management Programs and implementation strategies.

One purpose of this document is to report on the accomplishments of the region in addressing its environmental and coastal resource management needs. While the focus of the 1988 assessment was the RRPDC and the localities covered by Virginia's Coastal Zone Management Program, this report examines the entire region as a whole and ignores these artificial boundaries. Therefore the Counties of Goochland and Powhatan and the Town of Ashland are included in this assessment.

Another purpose of this report is to assess existing needs related to the environment within the region and set forth an implementation program to address these needs. As this report will show, many of the specific regional and local actions identified in the 1988 report have been accomplished or are in progress now. This demonstrates the advantage of establishing regional and local objectives and an implementation program.

REGIONAL ENVIRONMENTAL ACCOMPLISHMENTS

The two goals of the Regional Coastal Resources Management Program are:

An effective and ongoing regional coastal resources management program to support the goals of the Virginia Coastal Resources Management Program and the Chesapeake Bay Agreement.

An ongoing technical assistance program to local governments which is responsive to meeting their responsibilities to protect, conserve, and wisely manage coastal resources.

Ten regional objectives were established in the 1988 assessment to address these goals. Listed below are these objectives, followed by actions that have been taken by the RRPDC, or are now in progress, to accomplish these goals.

1. To develop and adopt specific environmental and growth polices at the regional level with the involvement of local member governments that provide for the protection, management, and conservation of the region's land and water resources.

A major element of the current work program is the development of specific environmental policies for consideration and adoption by the RRPDC. (The work on these policies is being done in conjunction with the environmental mapping discussed in item 4 below.) These policies cover a variety of environmental resources including the protection of ground and surface water resources, wetlands, flood plains, significant habitat areas and significant views and vistas. As additional information becomes available, additional policies will be developed.

Draft copies of the polices will be available in January, 1992. These will be reviewed by the Regional Environmental Technical Committee and the Regional Issues Committee of the RRPDC. They will then be presented to the Planning District Commission for consideration and adoption. Once adopted, the policies will serve as the Commission's guidelines for addressing environmental issues. These polices will be distributed to member governments for consideration and action. This project is being funded in part through a Virginia Coastal Resources Management Program (VCRMP) grant.

In addition to efforts now underway, the RRPDC has for several years been involved in water resources planning for the region. Through the Richmond Regional Water Resources Task Force the RRPDC has adopted policy statements and resolutions addressing water quality and water resource management and planning. Issues that have been addressed include wastewater allocations, state surface and groundwater management regulations, state instream flow standards and policies, combined sewer overflows, state and regional water supply planning, water supply allocation, beneficial instream uses, wetlands regulation, point and nonpoint source pollution, pollutant standards and guidelines, water conservation, and stormwater discharges. In 1991, the Planning District Commission adopted one element of a regional water supply plan. This element identified a preferred water system to meet the needs of the region to the year 2030 and a schedule for implementing the preferred system.

The RRPDC, working in cooperation with the Crater PDC, also prepared the Central Virginia Solid Waste Management Plan. One of the explicit objectives of the plan is environmental protection. Key to this protection is resource conservation, the reduction in the demand for land fill space and the elimination or reduction of ground water contamination related to waste disposal.

2. **To improve the expertise, training, and sensitivity of the RRPDC staff in addressing environmental issues.**

The RRPDC is intent upon developing staff expertise in several areas related to the environment. Staff attended training sessions, seminars and conferences that addressed wetland laws and regulations, wetland delineation, point source and nonpoint source pollution, groundwater pollution and management, instream flow, stormwater discharge, environmentally sensitive land use planning, solid waste management, erosion and sediment control and stormwater discharge management. This training was sponsored by such organizations as the Virginia Water Resources Research Center, Virginia Clean Lakes Association, Virginia Division of Soil and Water Conservation, State Water Control Board, Environmental Law Institute, U.S. Environmental Protection Agency, Virginia Institute of Marine Sciences, Chesapeake Bay Foundation, and Virginia Council on the Environment. Some of this training was funded in part through a VCRMP grant.

3. **To educate and train the RRPDC and local staffs concerning environmental regulations and permitting procedures.**

RRPDC staff members have attended various training sessions dealing with wetlands and stormwater management. The RRPDC sponsored a workshop conducted by the Virginia Bureau of Flood Protection on the state's Community Rating System for the evaluation of local flood protection programs.

4. **To expand the environmental and development information, mapping, and monitoring capabilities of the RRPDC with particular emphasis on computer applications.**

A major activity of the RRPDC for the past two years has been the identification and mapping of significant environmental features in the region. A geographic information system is being used to enter the environmental information into the Commission's computer system. Every effort is being made to develop a system that will allow information to be shared with local governments and state agencies.

Information that has been mapped includes the region's hydrologic features, reservoirs, ground water, areas of shoreline accretion and erosion, flood plains, ozone nonattainment areas, mineral resources and extraction activities, significant views and vistas, unspoiled river and stream corridors, the locations of rare and endangered species, trails and scenic byways, parks and wildlife management areas and historic and archeological sites. Additional information to be mapped as it becomes available includes prime agricultural and forestal lands and wetlands. The RRPDC is being assisted in the project by its member governments and the Council on the Environment. This activity was funded in part through a VCRMP grant.

In addition to gathering information for use within the region, the RRPDC has assisted various state agencies with the gathering and verifying of environmental information about the region. The RRPDC assisted the Department of Conservation and Recreation with the collection of data on existing and proposed water access points and facilities within the region. This information and accompanying maps will be used in a multi-state effort to map and catalogue potential access points in the Chesapeake Bay region. This project was funded in part through a VCRMP grant.

The RRPDC also assisted the Department of Conservation and Recreation with its effort to inventory and map all inland boat landing sites in the region. The RRPDC worked with its member governments to gather information on location, facilities, depth of water at the landing and other pertinent information.

5. **To educate decision makers and the public about critical regional environmental issues related to coastal and Bay resources.**

The RRPDC regularly includes information about current environmental issues in the agenda package of Commission members. In addition, presentations on environmental issues are made to the Commission as appropriate. The Commission's quarterly newsletter regularly includes information about environmental issues. The RRPDC staff has prepared technical reports on wetlands and sand and gravel which are discussed in item 7 below.

6. **To provide technical assistance to local governments, upon request, to meet specific planning and environmental management needs.**

The RRPDC assisted Charles City County with the preparation of a new Comprehensive Land Use Plan and the development of ordinances to implement that plan. Work is now underway to fine tune the development ordinances based on the adopted land use plan.

The RRPDC assisted New Kent County with the preparation of a new Comprehensive Land Use Plan. Work will soon begin on the preparation of development ordinances for the County.

The RRPDC assisted the City of Richmond with the development of a work program that is currently being used to prepare the Environmental Plan. RRPDC staff is also assisting with the development of the City's Environmental Plan. Staff has assisted with the preparation of special reports that were developed to aid the Advisory Committee and its subcommittees in this effort.

The RRPDC assisted the counties of Charles City and New Kent and the Town of Ashland in their efforts to adopt local ordinances to implement the Chesapeake Bay Preservation Act. The RRPDC assisted Charles City County with the drafting of a Chesapeake Bay Preservation Ordinance; assisted New Kent County with the development of special language for inclusion in existing ordinances to address the Preservation Act; and commented on the

Chesapeake Bay Preservation Ordinance prepared by the Town of Ashland. The assistance given to Charles City County and New Kent County allowed each locality to meet deadlines established by the Chesapeake Bay Local Assistance Board. This assistance allowed all three localities to obtain outside, independent review of their ordinances without incurring the additional expense of an outside consultant. All of the aforementioned activities were assisted in part through VCRMP grant funds.

Outside of the Coastal region, the RRPDC assisted Goochland County with the review of its Eastern Goochland County Growth Management and Conservation Plan. The RRPDC also reviewed the County of Powhatan's Comprehensive Land Use Plan at the request of the County's Director of Planning.

7. To prepare model ordinances and policy briefing or technical background papers on environmental and coastal issues for use by local government officials within the region.

The RRPDC staff participated in several activities aimed at the development of model ordinances to implement the Chesapeake Bay Preservation Act. One such activity involved working with the Chesapeake Bay Local Assistance Department to develop a model ordinance for distribution by the Department. Staff attended one meeting of a special committee organized to comment on this model and submitted oral comments and suggestions on the model.

The Regional Environmental Technical Committee, assisted by the RRPDC staff, investigated the concept of developing one model Chesapeake Bay Preservation Ordinance for the region. A first step in this process was for the RRPDC staff to prepare an annotated version of the model ordinance created by the Local Assistance Department. This was done to assist in differentiating between sections of the model ordinance that were required by the Act's regulations and those sections that were suggestions from the Department. After several meetings, the Committee decided that the preparation of one ordinance for adoption by all localities was not possible due to differences in approach and conditions in each of the localities.

The RRPDC staff has prepared technical papers dealing with environmental issues. One dealt with the issue of sand and gravel mining. This document explains the issues involved in sand and gravel mining and the state regulations which govern this form of mining. The document also presents planning and regulatory options

for local governments that wish to take a more vigorous role in regulating sand and gravel mining operation.

The RRPDC staff also prepared a report on wetlands. This document discusses the importance of wetlands and the federal and state laws and regulations which govern development in wetlands. The document also examines techniques that local governments can use to protect wetlands. Techniques discussed cover the local land use plan, development ordinances, land acquisition and assessment policies. Both reports were funded in part with VCRMP funds.

Staff developed briefing papers on § 401 and § 404 of the Clean Water Act for distribution to local governments. These reports were presented to the Richmond Regional Water Resources Task Force.

8. To provide technical assistance to local government staffs in the review of development proposals and preparation of specific plans and ordinances related to coastal and environmental issues.

Local governments have called on the RRPDC for assistance in reviewing development proposals on several occasions. New Kent County requested that RRPDC staff review a proposal for a large, mixed use development in the southern portion of the County near Bottoms Bridge. This review included special emphasis on the location of wetlands. The Town of Ashland requested assistance with the review of a proposal to expand an existing fast food restaurant and the potential impacts of this expansion on adjacent wetlands.

The Planning District staff also assisted with the environmental review of state proposals. One document that was reviewed was a proposal to build a large public safety facility in eastern Henrico. All of these technical assistance and review activities were funded in part through a VCRMP grant.

9. To assist local governments in the expansion of their environmental and development information, mapping, and monitoring capabilities.

The RRPDC assisted the Town of Ashland with a land use inventory. This information has now been computerized and is available to the town in graphic form.

Working with Henrico County and State Water Control Board staff, the RRPDC staff developed a DRASTIC map for Henrico County. A DRASTIC map is used to indicate the

potential of pollutants to enter the groundwater aquifer. The RRPDC staff provided instream water quality monitoring on the James River for Henrico County over a two year period. The staff continues to provide this service for the City of Richmond.

10. **To assist local governments in the preparation of Coastal Resource Management Grants upon request.**

The RRPDC has assisted several local governments with the preparation of Virginia Coastal Resources Management Grants. Following is a list of these applications:

Charles City County

The RRPDC assisted Charles City County with the preparation of two VCRMP grants applications, both of which were funded. These grant applications were for the updating of the County's Comprehensive Land Use Plan and for updating the County's land development ordinances. The RRPDC also assisted with the preparation of a Section 306A application to assist with funding of a public fishing pier. This application was also funded.

In addition to VCRMP applications, the RRPDC assisted the County with the preparation of two applications to the Chesapeake Bay Local Assistance Department. One was for funds to assist in mapping certain environmental features as part of its Chesapeake Bay Preservation Act program. This project was funded. The RRPDC also assisted the County with the preparation of a portion of a second grant to the Local Assistance Department. This application, to provide funds to cover a portion of the cost to review local development ordinances for consistency with the Preservation Act, was not funded.

New Kent County

The RRPDC assisted New Kent County with the preparation of three VCRMP grants. These grant applications were for assistance with updating the Comprehensive Land Use Plan and the updating of the County's land development ordinances. (This later application was submitted twice.)

In addition, the RRPDC assisted the County with the preparation of two applications to the Chesapeake Bay Local Assistance Department. One application was to provide funds to cover a portion of the cost of delineating and mapping certain environmental features in the County as part of its Chesapeake Bay Preservation Act program. This proposal was funded. The other

application was to fund a portion of the cost of reviewing the County's development ordinances for consistency with the Preservation Act.

Town of Ashland

The RRPDC assisted the Town of Ashland with the preparation of a preapplication for Section 319 Nonpoint Source Program Implementation funding. This funding was sought to assist with the preparation of a stormwater management ordinance and related nonpoint source pollution management activities. Unfortunately, this proposal was not funded.

LOCAL ENVIRONMENTAL ACCOMPLISHMENTS

The 1988 assessment included the results of a survey of local officials regarding environmental planning needs. The results of this survey were consolidated to create a list of general environmental planning needs of the localities in the region. Following is a summary of this 1988 assessment.

1. Planning Information

Most governments in the region lacked information on environmental features such as tidal and nontidal wetlands, forest and woodlands, wildlife areas, sand and gravel and other extractive areas, and groundwater vulnerability and aquifers. Generally these governments had to rely on uninterpreted data and recommendations contained in publication such as the local soil classification reports, where this information was available. The lack of this information made the assessment of environmental impacts of development difficult if not impossible.

2. Land Use and Policy Planning

Most local comprehensive plans addressed few, if any, environmental factors. This was due to lack of information, not lack of concern. The exceptions tended to be small area or section plans.

3. Development Regulations and Review

Other than flood plains, few localities directly addressed environmental factors in their regulatory ordinances in terms of specific standards and criteria. In general, most localities attempted to address some of these issues in site plan and subdivision review on a case-by-case basis, generally without specific written or adopted standards or policies. This case-by-case approach often failed to address the cumulative impacts of development. Furthermore, the absence of a proper planning and policy framework could lead to legal difficulties. Of special concern was the need to examine local approaches to stormwater management and criteria for regulating mineral extraction operations, especially sand and gravel mining.

4. Manpower and Budget Considerations

Most localities did not have the staffing or budget to adequately plan for and regulate development in

accordance with sound environmental principles. Large jurisdictions were kept busy keeping up with the demands created by growth. Rural counties typically had one person planning departments that were all but overwhelmed with daily operations.

Limited budgets and available staff time made it difficult for local planning staffs to obtain needed technical expertise on environmental planning issues. In addition, some local attitudes regarding environmental issues and opposition to more stringent development controls limited what could be accomplished in the area of environmental planning. Extensive education programs were needed.

Local governments have been involved in a variety of actions in recent years to address these issues. Following is a synopsis of actions that have been completed or are now underway in the region. This list is quite impressive. It becomes more impressive when one remembers that several major state and federal environmental mandates were adopted and/or clarified during this period. These include the Chesapeake Bay Preservation Act and the Virginia solid waste management planning requirements. The items marked with an "*" were funded in part by the VCRMP.

Town of Ashland

The Town of Ashland was not included in the 1988 needs assessment. The Town has, however, taken action to protect the environment. These actions are:

1. Mapped certain environmentally sensitive areas as required by state regulations.*
2. Adopted zoning and subdivision ordinance changes to implement the Chesapeake Bay Preservation Act and to protect certain environmentally sensitive areas.
3. Adopted a voluntary town-wide recycling program through the Central Virginia Waste Management Authority.
4. Established the Historic Ashland Committee to act as liaison between town staff and property owners. The Committee provides technical information and acts as a clearing house for information. The Committee is currently involved in acquiring historical artifacts for display and is preparing a "video survey" of all properties within the nationally registered historic district.

5. Created an Environmental Protection Chapter within the Town's Ordinance. The Chapter presently consists of Article III, Chesapeake Bay Preservation Areas. It is designed for expansion to include the following articles: air quality, erosion and sediment control, stormwater management, urban forest and other sections.
6. Adopted a Water Needs Study defining community needs and impact on surface water sources.
7. Expanded existing wastewater treatment facility from 1.2 MGD to 2.0 MGD.
8. Significantly reduced inflow and infiltration between storm sewer and sanitary sewer which resulted in by-pass of the treatment facility during periods of heavy rain.

Charles City County

In 1988, the County specifically noted the need for the development of an environmentally based comprehensive plan. Since then the County has taken the following actions to address its environmental concerns:

1. Adopted an environmentally based Comprehensive Land Use Plan on April 9, 1991.*
2. Prepared new zoning, subdivision and site plan ordinances to implement the new land use plan.*
3. Adopted an erosion and sediment control ordinance.
4. Created a new staff position for environmental management.
5. Initiated a waste reduction program to include two stationary drop-off centers for recycling with a third to be constructed this winter as well as office paper programs at schools and office complexes.
6. Mapped certain environmentally sensitive areas as required by state law.*
7. Adopted a Chesapeake Bay Preservation Ordinance.
8. Adopted amendments to the County flood plain overlay ordinance based on updated National Flood Insurance Program mapping. One hundred (100) year flood plains have been incorporated into the County's Chesapeake Bay protection program. This information will eventually be incorporated into the County's GIS database.

9. Purchased land and initiated the process to establish a public fishing pier and related access on the James River. A 24 acre park, including nature trails and other recreational facilities will be included. The County is being assisted in this project by various federal and state agencies.*
10. Received copies of the County's first soil survey. The information provided by this survey is being integrated into the development review process.

In addition, the County is involved in an aggressive program of upgrading its environmental data base. This program has been driven by the requirements of the Chesapeake Bay Preservation Act, initiatives sponsored by the Department of Conservation and Recreation and the Virginia Coastal Resources Management Program. The County currently has a contract with Virginia Tech to complete environmental resources inventories. These inventories include information on soils and topography, surface drainage and rivers, creeks and shorelines.

County of Chesterfield

The County cited the need for the preparation of specific development standards and criteria for environmental quality in the 1988 assessment. Activities undertaken to address environmental protection since then include:

1. Mapped certain environmentally sensitive lands as required by state law.*
2. Developed a Chesapeake Bay Preservation Program to control erosion and sediment and manage stormwater runoff.
3. Implemented a program to protect reservoir water quality through stormwater runoff management. This program includes the analysis of soil types, wetlands, vegetation, wildlife, unique habitats and scenic viewsheds in a comprehensive planning effort for the first time in the County.
4. Instituted dechlorination of wastewater plant effluent.
5. Initiated a toxicity reduction evaluation program at the Falling Creek Wastewater Treatment Plant.
6. Developed a stringent industrial pre-treatment program for wastewater.

7. Initiated a program to protect private water wells from septic tank contamination and insuring adequate water supplies in wells.
8. Developed regulations for construction debris landfills.
9. Initiated a program of wastewater sludge application to agricultural lands as a means to reduce landfill space requirements and to reduce moisture and consequently leachate from landfills.

County of Goochland

Although Goochland County was not a part of the original assessment and is not classified as a coastal county, it has been involved in several activities aimed at protecting the natural environment. Actions taken include:

1. Adopted the Eastern Goochland County Growth Management and Conservation Plan. This plan includes environmental protection areas as well as a village development concept to reduce the impacts of new development on the natural environment.
2. Adopted a land use plan for the remainder of the County.
3. Currently revising the County flood plain maps.

County of Hanover

In 1988, the County stated the need for technical assistance in providing environmental reviews for development proposals and improved monitoring and enforcement capacity for agricultural sludge application. The following actions have been taken since 1988:

1. Adopted a Crump Creek Reservoir Overlay Ordinance. This ordinance establishes regulations to prevent water quality degradation within the watershed of the planned Crump Creek Reservoir.
2. Action by the Board of Supervisors to recommend to the General Assembly the designation of a portion of the Chickahominy River as a Scenic River. (This action was approved by the General Assembly.)
3. Mapped certain environmentally sensitive areas as required by state regulations.*
4. Adopted a Chesapeake Bay Ordinance to govern land development in certain designated Chesapeake Bay Preservation Areas.

5. Amended the Comprehensive Plan to add reference to protection of the Chesapeake Bay and to recommend the Environmental Quality Corridor (EQC) system as the open space system for the County.
6. Amended the General Land Use Plan to change what had been shown as "flood plain" to "Generalized Chesapeake Bay Protection Areas and Stream Valley Corridors".
7. Initiated a recycling program under contract with the Central Virginia Waste Management Authority. The County operates 6 recycling sites.
8. Amended the zoning ordinance to provide additional development standards for nonresidential development in the Overlay Urban Development District. These additions include requirements for landscaping and buffering.
9. Adopted a stormwater drainage manual to establish detailed design criteria for implementing the requirements of the Flood Plain and Drainage Control Ordinance.
10. Adopted an ordinance amendment to provide for the regulation of the preservation and removal of specimen heritage, memorial and street trees.
11. Initiated mapping of prime agricultural land.

County of Henrico

The County identified its needs in the 1988 assessment as the provision of education programs for elected officials and technical staff on environmental concerns and development of information and development guidelines for preservation of prime and productive agricultural lands. The County has taken the following actions regarding the environment:

1. Prepared an environmental study for a wastewater treatment plant, including an archeological study.
2. Prepared an in-stream flow study for the James River to determine the impacts of withdrawing drinking water for Henrico County residents.
3. Adopted various ordinances to implement the Chesapeake Bay Preservation Act.
4. Adopted amendments to the flood plain ordinance to restrict unsafe developments within the 100 year flood plain.

5. Adopted a landscape and tree preservation ordinance to encourage the preservation of trees and other existing landscaping when land is developed.
6. Adopted an revised environmental element of the land use plan to address the County's sensitivity to environmental issues and comply with the Chesapeake Bay Preservation Act.
7. Adopted an erosion and sediment control ordinance which exceeds state standards.
8. Formed an historic preservation advisory committee to advise the Board of Supervisors and monitor historic sites and buildings within the County.
9. Adopted a 2005 Parks, Recreation and Open Space Plan. The plan encourages the protection and conservation of natural resources and plans for the acquisition of park sites.
10. Worked with the USDA-SCS on the development of an agricultural wetlands inventory.
11. Requested and received from the General Assembly designation of a portion of the Chickahominy River as a Scenic River.
12. Developed an inventory of land uses for hydrologic unit planning for soil and water quality issues.
13. Participated in a state groundwater protection program which yielded a DRASTIC map for the County. This map will be used in well studies and in land use planning for groundwater protection measures.
14. Initiated an extensive wetland delineation education program available through the Henricopolis Soil and Water Conservation District.
15. Initiated an update of the Henrico County Inventory of Early Architecture and Historic Sites.
16. Completed a stormwater study in preparation of developing a County stormwater management program. This study includes an analysis of land uses and impervious surfaces by watershed.
17. Opened a 30 million gallon per day wastewater treatment plant.

18. Began work on a program to address EPA NPDES requirements.
19. Organized an Environmental Management Section within the Department of Public Works. This section reviews and enforces the County's erosion and sediment control, stormwater and surface water quality programs.

County of New Kent

The County has taken the following actions to address environmental protection:

1. Created a wetlands board and initiated a County wetlands permit program.
2. Adopted ordinance language which allows the County to require an Environmental Impact Statement for new subdivisions.
3. Adopted an erosion and sediment control ordinance.
4. Adopted a one hundred percent (100%) reserve requirement for septic tank fields.
5. Developed site plan requirements for zoning ordinance categories for all Business and Manufacturing Districts.
6. Developed an environmentally based comprehensive land use plan.*
7. Contracted with the RRPDC to assist in the preparation of new zoning and subdivision requirements and develop a stormwater management ordinance.*
8. Mapped certain environmentally sensitive areas as required by state regulations.*
9. Adopted modifications to existing ordinances to implement the Chesapeake Bay Preservation Act.*

County of Powhatan

As in the case of Goochland County, the County is not a coastal county and was not included in the 1988 assessment. The County has taken the following steps to protect its environment:

1. Adopted a new comprehensive land use plan.
2. Adopted zoning and subdivision ordinances.

3. Adopted an erosion and sediment control ordinance.
4. Adopted a resolution to allow for the creation of agricultural and/or forestal districts.

City of Richmond

Several needs were stated by the City in the 1988 assessment. These were completion of major updating of flood plain maps, improved stormwater management capabilities, improved legal enforcement by court system of soil and erosion ordinance, development of city-wide environmental policies and streamlining of permitting process to improve staff availability for other tasks.

The City has taken the following actions to address these and other environmental issues:

1. Mapped certain environmentally sensitive areas as required by state law.*
2. Prepared and adopted an ordinance to implement the Chesapeake Bay Preservation Act.*
3. Adopted an erosion and sediment control ordinance.
4. Initiated a multi-year program to address the City's combined sewer overflow situation.
5. Initiated enhanced street sweeping and leaf pick-up programs to reduce debris flowing into the James River.
6. Initiated a planned unit development review process.
7. Adopted improved site plan review requirements.
8. Adopted landscaping requirements for parking lots.
9. Initiated a process to review applications for air, solid waste and water permits for compliance with the comprehensive plan and development ordinances.
10. Begun work on a multi-year program to develop an Environmental Plan.*

ASSESSMENT OF REGIONAL AND LOCAL ENVIRONMENTAL PLANNING NEEDS

The RRPDC and its member governments have accomplished much in the area of environmental planning since the 1988 assessment. Needs still remain, however. To determine what the current needs are, RRPDC staff members consulted with the members of the Regional Environmental Technical Committee.

In developing this list of environmental planning needs, it became apparent that two types of needs exist. One type of needs can be characterized as general in nature; that is, not related to a specific project or issue. These needs tend to be more on-going in nature. The other type of needs are more specific; that is, they relate to specific projects or areas of concern within one or more localities in the region.

GENERAL NEEDS

The Richmond region is very diverse, ranging from very rural to highly urbanized localities. While there is diversity, there are certain issues which all localities in the region must address. These issues are as follows:

Information Collection, Management and Analysis

The Virginia Commission on Population Growth and Development has cited the need for a comprehensive data collection and management system to deal with the issues of population growth and development. In the years since 1988, localities in the Richmond region have invested a great deal of time and effort in developing environmental data bases. Work is still needed in this area.

Some localities in the region have the ability to take raw environmental data and develop sophisticated environmental data bases. Most, however, rely on others to develop this information. While a variety of environmental information exists, the useability of this information varies. Some information is up-to-date and readily available from computerized data bases, either free or for a charge. Other information, such as more precise data on wetlands locations and types, is not yet available for the entire region. Even then, the costs of acquiring this information, or the machinery to store and analyze the information, may be prohibitive to some localities. Localities need both financial and technical assistance to obtain environmental information.

Once local data bases have been developed, it is necessary to keep this information up-to-date. This involves keeping in contact with state and federal agencies to determine what information is becoming available. This need will exist as long as localities and the RRPDC maintain environmental data bases.

A third issue related to the development of a data base is analysis. As stated before, the localities in the Richmond region differ greatly in their resources. While some localities in the region have large staffs, fully capable of analyzing environmental data, there are times when supplemental assistance is needed. Other localities need regular assistance with interpreting environmental information and developing strategies to act on that information.

Data Base Management Hardware and Software

The collection of environmental data is of little use if it cannot be accessed and interpreted in a meaningful manner. Many state agencies are working to develop environmental data bases for use with computer based geographic information systems. Localities in the Richmond region are working to develop local computer based data management systems that can use this information and provide the level of detail necessary to manage and assess environmental information on the parcel level. The RRPDC is working to develop a regional environmental data base system to serve the broad planning needs of this agency and its member governments.

While computer systems greatly enhance the ability of a locality to use information, there are costs associated with purchasing the right type of equipment to handle these massive data files. Localities in the region as well as the planning district commission need assistance with the purchase of hardware and software capable of handling these tasks and that are compatible with information systems being developed by the State. In addition, many localities need financial assistance with obtaining personnel to enter what can be massive amounts of information into these systems.

Local Planning and Regulatory Needs

All localities in the region have updated all or portions of their land use plans since 1988. Many of these plans specifically address environmental planning issues, some for the first time. In addition, these localities have updated development regulations to better protect the environment. There still exists a need to continue to update local plans and ordinances to address environmental issues. Some of this need is due to federal and state mandates regarding such issues as air pollution and stormwater management requirements. Other needs have been identified as a result of local planning efforts.

Enforcement

A local planning and regulatory system is only as good as the enforcement system. Without strong enforcement, the best programs will have little impact. Localities in this region need qualified, well trained enforcement personnel to ensure that local policies

and ordinances are enforced. Local resources are limited however. Help is needed in funding and training these enforcement personnel.

Regional Discussion of Environmental Issues

A principal benefit of the Regional Environmental Technical Committee is that it allows local staffs to come together periodically to discuss environmental issues and share information about local environmental activities. Most importantly perhaps, these meetings allow discussions of ways in which these governments can work together to address common concerns and issues. This regional discussion and cooperation effort is and will continue to be a need of this region.

Financial/Technical Assistance

As stated before, the provision of adequate financial assistance to deal with the myriad of environmental issues facing local governments is crucial to the continuation of strong environmental planning programs. This assistance is needed to support existing and expanded staffing and to purchase equipment, such as computer hardware and software, which is necessary for dealing with the multi-faceted issue of environmental planning.

In reality, financial assistance will never be available in the amounts necessary to meet the needs of all local governments. Therefore, technical assistance is also needed. While specific needs vary, in general localities need assistance to perform environmental reviews of development proposals, to respond to requests for information from federal and state agencies and to handle periodic needs such as the updating of local plans and regulations. In addition, many localities need assistance with the preparation of proposals to obtain needed financial and technical assistance.

Training/Education

In addition to financial assistance, localities need specialized training to deal with environmental issues. Technical training is needed for local and regional planning staffs in such areas as evaluating BMPs, wetlands identification and other issues.

Education is also needed for local elected and appointed officials. Several localities in the region experienced major turnovers on local governing boards. These boards and their planning commissions will need extensive training in the importance and benefits of environmental management.

SPECIFIC NEEDS

In addition to these general needs, more specific needs were identified by the Regional Environmental Technical Committee. The

Committee's input, along with other information, was used by the RRPDC staff to develop the following list of regional environmental needs.

Flood Plain Management Analysis

Each locality in the region has adopted a flood plain management ordinance based on the federally prescribed model. There is, however, a concern about the consistency of application and interpretation of these ordinances across jurisdictional lines and potential downstream impacts of any inconsistencies.

There is a need to examine flood plain management ordinances and procedures throughout the region. This examination will determine what, if any, actions are needed to better protect flood plains and public safety.

Analysis of On-site Sewage Treatment Options in Poor Soils

Central sewage treatment is not available in each locality in the region. In some counties, central systems are available only in limited areas. As demand for housing in these areas increases, so does the demand for on-site sewage treatment facilities. Unfortunately, portions of the region have soil conditions that are not conducive to the installation of traditional septic tank systems. In addition, some septic tank systems that were installed in marginal areas have failed, leaving the home owner with few options for sewage disposal.

There is a need to determine what alternatives to the use of septic tanks exist and how those systems function in the soils found in this region. Of special concern is the plight of low income families that must deal with these issues.

Ground Water Protection

There has been much discussion about ground water protection in the State. Many of the localities in this region rely heavily on ground water for homes, businesses and industry.

There is a need to assess ground water resources and potential threats to ground water within the entire region. From this, recommendation can be developed to address these threats to this valuable resource.

Environmental Threat Analysis

Ground water is not the only resource that could face potential threats from man-made or natural activities. Surface water, environmentally sensitive lands and significant habitat areas all must be monitored to ensure their safety.

There is a need to assess potential threats to the region's air, water and land resources and to determine what local or regional actions are needed to address these threats. While each locality in the region is striving to address local environmental issues, a regional approach will allow a comprehensive examination of the issues. This effort will be greatly assisted by the environmental mapping work done by the RRPDC, assisted by its member governments.

Open Space Planning

As development continues in the region, the need to take action to protect open spaces increases. Many localities are working to develop local recreation and open space programs. In fact, a project is currently underway to identify potential greenways to connect significant public attractions in Chesterfield, Hanover and Henrico counties and the City of Richmond.

A need still exists to address open space planning from a regional perspective. This is especially important in rural areas where public open space tends to be limited. This activity would take into account the work that has been done by the Department of Conservation and Recreation as part of efforts to protect the Chesapeake Bay region.

Public Information Program

One of the key items cited in the 1988 assessment was the lack of information on the region's environmental features. Since that time much effort has been spent in developing an environmental data base.

A need exists now for a program that articulates information about the important environmental resources within the region, opportunities related to these resources and potential threats. This effort will be enhanced by the environmental mapping work done by the RRPDC.

Surface Water Management Plan

The region is fortunate to be blessed with substantial quantities of surface water that are fairly drought resistant. As the region's population grows, however, the numerous demands placed on the region's rivers and streams will increase.

There is a need for a surface water management plan that addresses water quality and quantity requirements, both onstream and off-stream, for the region. This plan should also address potential threats to water quality, public access to surface water, appropriate densities for water dependent uses such as marinas, water pollution, stormwater management and aquaculture.

Small Reservoir Investigation

Many subdivisions in rural portions of the region incorporate small, non-regulated water impoundments into the development. These impoundments are for recreational, water supply, fire suppression, aesthetic and other purposes.

There is a growing concern about the safety of these impoundments. There is a need to inventory these facilities and see what, if any, action is necessary to protect users of these facilities as well as downstream property owners.

Regional Soil Limitations Analysis

A majority of the localities in the region have complete soil surveys. These reports provide a wealth of information that can and is being used for environmental and land use planning purposes.

There is a need to examine soil conditions and limitations on a regional basis. This regional approach will allow the exchange of information between localities and could lead to multi-jurisdictional approaches to common development problems.

Scenic/Historic River Designation

As mentioned previously, the Richmond region contains a number of rivers and streams. Many of these offer unique scenic and recreational opportunities. In fact a portion of the Chickahominy River has been designated a scenic river. A portion of the James River has been designated a historic river.

There is a need to take a regional approach to river protection and designation. This will reduce the burden on any one locality while allowing the entire river system to be examined as a whole instead of in several pieces. This will also allow a thorough examination of the many uses of the region's rivers.

Stormwater Management

Several pieces of legislation have been passed recently at the federal and state level dealing with stormwater management. Many localities in the region are either required to or want to address the issue of stormwater management.

There is a need to address stormwater management on a regional basis. While the individual concerns and needs of each locality may be different, a regional approach will allow the sharing of information and possibly facilities. This may lead to a regional solution that is more efficient and cost effective than individual solutions.

IMPLEMENTATION PROGRAM

The following activities have been identified for inclusion in the RRPDC's regional environmental program.

1. Adopt regional environmental polices in cooperation with local governments, which address environmental and coastal issues.
2. Finalize a series of regional maps which depict significant regional environmental resources.
3. Provide technical advice and information to local governments and the public upon request on environmental and coastal resources matters.
4. Prepare applications at the request of local governments for obtaining grants under the Coastal Resources Management Program and other grant programs.
5. Contract with member governments to prepare plans and studies as needed.
6. Assist the Council on the Environment and other state agencies in the gathering and dissemination of environmental and coastal information.
7. Act as liaison between state and interstate agencies and organizations and local officials and the public.
8. Prepare technical briefing papers covering current environmental issues as needed.
9. Send staff members to conferences and seminars to expand their knowledge and expertise in critical environmental and resource management areas
10. Develop in-house expertise on issues such as wetlands protection, nonpoint source pollution management and water resources management.
11. Prepare articles on coastal and environmental issues for inclusion in the RRPDC's Regional Quarterly.
12. Complete environmental reviews of projects as needed under state and federal intergovernmental coordination policies.
13. Review and update the environmental needs assessment and implementation program as needed.

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