

FEDERAL, STATE, AND LOCAL GOVERNMENT INTERACTIONS IN THE
ADMINISTRATION OF WETLAND PROTECTION MEASURES IN VIRGINIA

by

Laura Lynn Cunningham

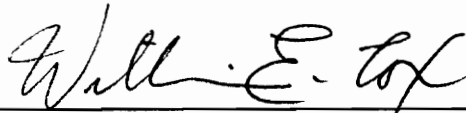
Thesis submitted to the Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

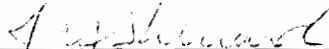
IN

Environmental Science and Engineering

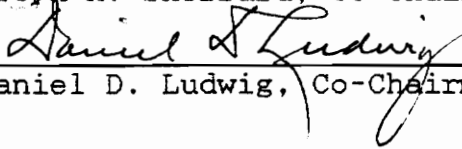
APPROVED:



William E. Cox, Co-Chairman



Joseph H. Sherrard, Co-Chairman



Daniel D. Ludwig, Co-Chairman

February, 1988
Blacksburg, Virginia

2

LD
5655
V855
1988
0866
0.2

FEDERAL, STATE, AND LOCAL GOVERNMENT INTERACTIONS IN THE
ADMINISTRATION OF WETLAND PROTECTION MEASURES IN VIRGINIA

by

Laura Lynn Cunningham

Committee Co-Chairmen: William E. Cox
Joseph H. Sherrard
Daniel D. Ludwig
Environmental Science and Engineering

(ABSTRACT)

The objective of this thesis is to determine the effectiveness of Federal, state and local government interactions in administration of tidal wetland protection measures in Virginia. Federal protection for wetlands is authorized by the Clean Water Act [33 U.S.C.A. 1251 et seq. (1986), as amended (Supp. 1987)] and the Rivers and Harbors Act [33 U.S.C.A. 401 et seq. (1986), as amended (Supp. 1987)]. State and local authority is provided by the Virginia Wetlands Act [Va. Code Ann., sec. 62.1-13.1 et seq. (1987)]. Because of overlapping jurisdictions of the statutes, Federal, state, and local governments must interact while implementing wetland protection programs. Effective interactions between the various levels of government are important for the preservation and protection of tidal wetlands. If the three levels of government are able to efficiently administer a program that provides

adequate protection of wetlands, similar programs may be applied in other areas such as non-point source pollution control.

A history of the development of the wetlands protection program is presented along with a description of applicable statutes, regulations, and permitting requirements. Included is an analysis of the implementation of the wetland statutes by case studies of program operations, a comparison of decisions on applications made by the three different government agencies, and identification of impacts and future trends of the wetland protection programs.

Acknowledgements

I would like to thank Dr. William E. Cox, Dr. Daniel D. Ludwig, and Dr. Joseph H. Sherrard for their advice and recommendations in writing this paper. I would also like to thank the following agencies for their assistance in obtaining information for my research: Norfolk District Corps of Engineers, Virginia Marine Resources Commission, Virginia Institute of Marine Science, City of Norfolk Wetland Board, Lancaster County Wetland Board, and York County Wetland Board.

Table of Contents

I.	Introduction	1
II.	Wetlands Protection Statutes	5
A.	Federal Statutes	5
1.	Rivers and Harbors Act of 1899	6
2.	Federal Water Pollution Control Act	11
3.	Other Federal Statutes	17
4.	Program Administration	25
B.	Virginia Wetlands Act	39
1.	History	39
2.	Program Administration	40
III.	Analysis of Current Program	49
A.	Application Review	49
B.	Agency Coordination	71
C.	Trends and Impacts	75
1.	Program Effectiveness in Wetlands Preservation	75
a.	Impacts	75
b.	Mitigation	78
2.	Program Deficiencies	80
a.	Overlapping Jurisdiction	80
b.	Permitting Delays	83
c.	General Permits	84
d.	Enforcement	86
e.	Funding	87
IV.	Conclusion and Recommendations	89

V. References 92

Appendix A. Abbreviations 97

Appendix B. Data Extraction Form 98

Appendix C. Application Review Information100

Vita122

I. Introduction

Historically, wetlands were viewed by society as areas having little or no value. Later, conservationists and naturalists began to push for preservation of wetlands on the basis of their intrinsic and aesthetic values. More recently, the value of wetlands has been recognized by scientists and various government agencies: As a result, programs have been implemented for preservation and management of wetland areas.

Wetlands are generally defined as areas frequently inundated or saturated by water, leading to the development of plant and animal communities adapted for life in saturated soil conditions. Included in this definition are saltmarshes, freshwater marshes, swamps, bogs, wet meadows, fens, potholes, and bottom lands (Horwitz, 1978; Office of Technology Assessment, 1984).

Many reasons exist for preserving and managing wetlands. In addition to aesthetic, recreational, and educational benefits, wetlands provide support for fish and wildlife populations, floodwater storage, erosion control, groundwater recharge, and improved water quality (Horwitz, 1978; Office of Technology Assessment, 1984; Wentz, 1984).

A number of Federal statutes have evolved which directly or indirectly aid in the preservation of wetlands.

Two of the most prominent statutes are the Rivers and Harbors Act of 1899 [33 U.S.C.A. 401 et seq. (1986), as amended (Supp. 1987)] and the Federal Water Pollution Control Act [33 U.S.C.A. 1251 et seq. (1986), as amended (Supp. 1987)]. Federal Government regulation of various construction and dredge and fill activities involving wetlands alterations is authorized by these two Act. In Virginia, the Virginia Wetlands Act of 1972 [Va. Code Ann., sec. 62.1-13.1 et seq. (1987)] provides a means through which state and local governments control use of coastal wetlands. Under these statutes, permits must be acquired before conducting activities that may affect coastal wetlands. Overlapping jurisdiction of these statutes requires interactions between Federal, state, and local government agencies. The purpose of this thesis is to review the wetlands protection statutes, analyze the implementation of these statutes by case studies of program operations, and identify impacts and future trends of the wetlands protection programs.

Analysis of the application review process began with an examination of files at each agency responsible for program implementation. A two year review period from 1985 through 1986 was selected as an adequate sampling period. The area covered by the review was limited to three representative localities including Lancaster County, a

rural community, the City of Norfolk, an urban community, and York County, an intermediate between a rural and an urban community. A data extraction form (Appendix B) was used so that identical information could be obtained from each file reviewed. Files were reviewed at each of the three localities chosen to acquire information on local decisions relating to permit applications. To obtain information on the state and federal programs, the same files were reviewed at the Virginia Institute of Marine Science, Virginia Marine Resources Commission, and the Corps of Engineers. Additional information was obtained from informal interviews conducted at each of the offices visited.

A description of the statutes noted above and an analysis of the implementation of those statutes is included in the following sections. Section II contains a summary of the wetlands protection statutes, including a brief history of each statute, a description of the jurisdiction covered by the statutes, and administration of programs as defined by the statutes. Section III is an analysis of current implementation of these statutes in Virginia. Included is a description of the permit review process, a discussion of interagency coordination, and identification of future trends and impacts of the statutes. Section IV contains conclusions and recommendations, and Section V includes references cited. These sections are followed by

appendices. Appendix A is a list of abbreviations used throughout the paper, Appendix B is a copy of the data extraction form previously mentioned, and Appendix C contains the results of the application file review.

II. Wetlands Protection Statutes

The following subsections contain summaries of Federal and state wetland protection statutes including a brief history of each statute and a description of the jurisdiction covered by the statutes. Also included is a description of the administration of protection programs as defined by the statutes.

A. Federal Statutes

Section 10 of the Rivers and Harbors Act of 1899 [RHA] [33 U.S.C.A. sec. 403 (1986), as amended (Supp. 1987)] and section 404 of the Federal Water Pollution Control Act [FWPCA] [33 U.S.C.A. sec. 1344 (1986), as amended (Supp. 1987)] provide the basic authority for federal protection of wetlands. Both programs require permits from the Corps of Engineers [Corps] for discharges of dredge or fill material. They have similar permit application processing and review procedures, but program jurisdictions differ. If both a section 10 and a section 404 permit are required for an activity, the review process is combined (Blumm, 1980). Several other federal statutes also provide some limited protection of wetlands. Requirements of these statutes are incorporated into the permitting program administered by the Corps.

1. Rivers and Harbors Act of 1899

Three factors have been important in the development of the RHA as a wetlands protection statute. First, expansion of Corps' jurisdiction to include coastal wetlands made application possible. Second, federal statutes such as the Fish and Wildlife Coordination Act [FWCA] [16 U.S.C.A. 661 et seq. (1985), as amended (Supp. 1987)] and the National Environmental Policy Act [NEPA] [42 U.S.C.A. 4321 et seq. (1977), as amended (Supp. 1987)] have forced the Corps to assess environmental and public interest factors in its programs. And third, the courts have become more receptive to actions brought by private citizens against violators of sections 9 and 10 of the RHA (Barker, 1976).

The RHA was first enacted in 1890. This act gave the Federal Government the power to regulate construction activities in navigable waters by issuing permits for those activities. Navigable waters were defined by Corps' regulations as waters capable of being used for commercial activities. Several problems with the Act led to its amendment in 1899. At that time, sections 9 and 10 [33 U.S.C.A. secs. 401 and 403 (1986), as amended (Supp. 1987)] were added to more clearly define federal jurisdiction over navigable waters. Section 9 required legislative authorization and administrative approval by the Chief of Engineers and Secretary of Army for construction of dams,

dikes, causeways, and bridges in navigable waters of the United States (Barker, 1976; Schneider, 1976). Authority of the Secretary of the Army and the Chief of Engineers with respect to bridges and causeways as covered by section 9 was passed to the Secretary of Transportation under the Department of Transportation Act of 1966 [49 U.S.C.A. 1151 et seq. (1976), as amended (Supp. 1987)]. However, a permit from the Corps is still required under section 404 of the FWPCA for discharge of dredge and fill materials into waters of the United States associated with construction of bridges and causeways [33 C.F.R. part 320.21 (1986)].

Section 10 requires Corps' approval for the construction of wharves, piers, breakwaters, dredge and fill operations, and other activities which may alter or modify navigable waters [33 U.S.C.A. sec. 403 (1986), as amended (Supp. 1987)]. The term "dredged material" is defined by the Corps as material excavated or dredged from the waters of the United States. "Discharge of dredged material" means any addition of dredged material into the waters of the United States, including addition to a specified discharge site and the runoff or overflow from a contained land or water disposal area. The term "fill material" means material used for replacing water with dry land or for changing the bottom elevation of a water body. "Discharge of fill material" means addition of fill material to waters

of the United States, and includes placement of fill for construction [33 C.F.R. part 323.2(c-f) (1986)].

A project does not have to be located in the water to be subject to section 10 permitting. "The creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of the waters of the United States is prohibited" [33 U.S.C.A. sec. 403 (1986), as amended (Supp. 1987)]. Because alteration or modification to the shoreline of a navigable waterway requires a permit under section 10, waterfront and coastal developments often require Corps' permits (Barker, 1976). Permits are required for dredging activities which excavate material, regardless of whether or not the material is deposited in navigable waters (Blumm, 1980).

Prior to the 1960's, the Corps administered the RHA only to protect navigation (Barker, 1976; Conner, 1983). While the RHA gave the Corps broad jurisdiction over navigable waters, the Corps chose to impose stricter limits on its authority. Section 11 [33 U.S.C.A. sec. 404 (1986)] authorized the Corps to establish harbor lines, beyond which no construction was allowed without a permit. No permits were required for construction shoreward of the harbor lines (Casto, 1971; Power, 1977). While section 11 is still in effect, permits are now required for activities shoreward of the harbor lines. Harbor lines currently are used as

guidance for assessing impacts of activities on navigation [33 C.F.R. part 320.4(o) (1986)].

In new regulations published in 1968, the Corps added a public interest review to its review process. In a 1970 court case, *Zabel v. Tabb* [430 F.2d 199 (5th Cir. 1970), cert. denied, 401 U.S. 910 (1971)], the Fifth Circuit Court upheld the Corps' public interest review by allowing it to deny a permit solely on the grounds of environmental factors. The court held that the commerce power of the United States Constitution can be used to protect the environment, and that the FWCA and NEPA require the Corps to weigh environmental conditions in its review process. Sections 9 and 10 were not limited by Congress in their applicability to projects obstructing navigation; therefore the Federal Government can use this permitting authority to protect the environment (Barker, 1976).

Also in the 1970's, a permit program under section 13 of the RHA [33 U.S.C.A. sec. 407 (1986), as amended (Supp. 1987)] was adopted as an industrial pollution control law (Power, 1977). Section 13 prohibits discharge of refuse into navigable waters without a permit from the Corps. Under this section, the Corps developed regulations requiring permits for industrial discharges into all navigable waters and tributaries. However, the program had two problems. First, section 13 was inconsistent with other pollution control acts in effect at that time, and second,

the program would have put thousands of industries in violation of the law when it went into effect. To eliminate these problems, President Nixon adopted Executive Order 11574 [35 Fed. Reg. 19627 (1970)] which created the Refuse Act Permit Program. This program coordinated efforts with other existing pollution control laws and protected industries against prosecution (Power, 1977). In order to implement this program, the definition of navigable waters had to be expanded to include waters not previously considered by the Corps. A permit system for regulating industrial discharges using the expanded definition of navigable waters was developed by the Environmental Protection Agency [EPA] and the Corps (Schneider, 1976). However, in *Kalur v. Resor* [335 F.Supp. 1 (D.D.C. 1971)], a federal district court ruled that the Corps had no permit authority over tributaries to navigable waters. In addition, the Court ruled that the Corps would first have to submit an environmental impact statement for each proposal before issuing a permit. While section 13 is still in effect for use in prosecution of occasional discharges, the permit authority of the Secretary of the Army over industrial discharges has been superseded by the permit authority provided the EPA and the states under sections 402 and 405 of the FWPCA [33 U.S.C.A. secs. 1342 and 1354 (1986), as amended (Supp. 1987)].

Enforcement of the RHA is the responsibility of the Corps. RHA is a criminal statute whereby violators may be fined up to \$2500 per day and one year in jail. Decisions to seek criminal penalties under section 17 are made by the Department of Justice [33 U.S.C.A. sec. 413 (1986)] before it will prosecute. In addition to enforcement by the Corps, private litigants can seek civil remedies to violations of the RHA through section 12 [33 U.S.C.A. sec. 406 (1986), as amended (Supp. 1987)] which allows the courts to enforce the statute with injunctions. Courts can enjoin further construction and can order the removal of structures and restoration of damaged areas (Barker, 1976).

2. Federal Water Pollution Control Act

FWPCA, first enacted in 1948, gave states primary responsibility for controlling water pollution. Enforcement was difficult under this provision, and little or no wetlands protection was accomplished. Coastal waters were not included in the Act until the 1961 amendments. In 1965, the Act was again amended, giving the Federal Government more control over pollution abatement. State officials were required by the Act to file a letter of intent to adopt acceptable water quality criteria and plans for enforcement of those criteria. If states did not adopt a program, the Secretary was authorized to adopt and promulgate standards for the state. In the 1966 amendments, dischargers were required to file reports concerning the types and quantities

of wastes they were discharging. However, the Act did not create a realistic division of Federal and state laws, resulting in considerable duplication of effort. Also, the Act was not coordinated with other statutes pertaining to pollution control (Barry, 1970).

The permit program of the FWPCA included regulation of dredge spoil, rock, sand, and dirt, which would have overlapped EPA's program with the Corps' program. In order to eliminate this overlap, section 404 was added to the 1972 amendments to allow the Corps to continue regulating dredge and fill operations. All other aspects of the FWPCA were handled by EPA (Caplin, 1977; Power, 1977). Section 404 authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredge and fill material into the waters of the United States at specified disposal sites [33 C.F.R. part 320.2 (f) (1986)].

In 1974, the Corps published new regulations [33 Fed. Reg. 12115 (1974)] that required evaluations of permits to include a balancing of anticipated benefits and detriments of the proposed projects to the environment. Relevant factors to be considered in the review process included conservation, economics, aesthetics, historic values, fish and wildlife values, land use classifications, recreation, water supply, water quality, and the needs and welfare of

the people. In addition, separate permits would be required for work inside harbor lines.

Until 1975, the Corps limited its jurisdiction to the traditional definition of navigable waters as defined in the RHA. According to this definition, navigable waters included waters of the United States subject to the ebb and flow of the tide up to the mean high water mark that are presently used, have been used in the past, or may be susceptible to use in transporting interstate or foreign commerce [33 C.F.R. part 329.4 (1986)]. However, according to the FWPCA, navigable waters were defined as "the waters of the United States, including territorial seas." [33 U.S.C.A. sec. 1362(7) (1986)]. EPA implemented the Act using the broader definition (Caplin, 1977). The Corps opposed expansion of its jurisdiction under the 404 program. It felt that overlapping jurisdiction would cause problems because some states were already regulating wetlands, would result in unintended land use consequences, would not encourage future state administration, and would conflict with other federal agencies' authority (Finnell, 1978). In a 1975 case, *National Resources Defense Council, Inc. v. Calloway* [392 F.Supp. 685 (DDC 1975)], the District Court for the District of Columbia ordered the Corps to change its regulations to include the broader definition of navigable waters as defined by the FWPCA including wetlands,

tributaries, and certain interstate lakes greater than five acres in size (Caplin, 1977).

In July 1975, the Corps, with the help of EPA, developed interim final regulations [40 Fed. Reg. 31320 (1975)]. These included a five part approach to implementing the increased jurisdiction ordered by the court. The five parts were listed as follows [40 Fed. Reg. 31320 (1975)]:

- (1) Definitions were included to clarify areas and activities regulated by section 404.
- (2) Implementation of the program was to occur in three phases. Phase I extended through July 1, 1976 and regulated discharge of material into coastal and inland traditional navigable waters and their adjacent wetlands. Phase II operated from July 1, 1976 to July 1, 1977 and added regulation of lakes and primary tributaries of traditional navigable waters and their adjacent wetlands. Phase III began after July 1, 1977 and included all navigable waters. By Presidential Order, Phase I was extended to September 1, 1976 and implementation of Phase II was changed to September 1, 1977.
- (3) Grandfather clauses authorized certain 404 type discharges either not covered by phasing or already completed.
- (4) State participation in the 404 program was increased.
- (5) General permits were issued for certain activities not requiring a case-by-case review.

The FWPCA was amended in 1977 and later became known as the Clean Water Act [CWA] (Office of Technology Assessment, 1984). Under the 1977 amendments, the Corps' jurisdiction was increased to include headwaters and certain lakes less than five acres in size. "Wetlands" are defined by the Corps as "those areas that are inundated or saturated by

surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." [33 C.F.R. part 328.3(b) (1986)]. Wetlands adjacent or contiguous to navigable waters are included within the scope of the Corps' program. "Adjacent" is defined by the Corps as "bordering, contiguous, or neighboring ... separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are 'adjacent wetlands'." [33 C.F.R. part 328.3(c) (1986)]. In nontidal waters, Corps' jurisdiction extends to land and waters below the ordinary high water mark or, if there are adjacent wetlands, to the limit of the adjacent wetlands. In tidal waters, jurisdiction extends laterally to the entire water surface and bed of all waters up to the mean high water mark, except when there are adjacent wetlands, in which case jurisdiction extends to the limit of those wetlands [33 C.F.R. part 328.4 (1986)]. Mean high water is the average of all the daily high tides at a given location over an 18.6 year period, which is a complete lunar cycle (Barker, 1976).

The expansion of the Corps' jurisdiction in the 1977 amendments was argued in the court case *United States v. Riverside Bayview Homes, Inc.* [729 F.2d 391,398 (6th Cir. 1984) rev'd 106 S.Ct. 455 (1985)]. Riverside owned a 60-acre parcel of land which it had begun to fill in for

construction of homes. The Corps ordered Riverside to stop filling in the land above the high water mark because it contained wetlands vegetation. When Riverside continued to fill in the wetlands, the Corps took them to court. Riverside argued that the presence of vegetation was due to the type of soil on the property and was unrelated to the proximity of traditional navigable waters. A federal district court enjoined Riverside from filling in the land because, under the Corps' definition, the land was considered adjacent wetlands. The defendant appealed the decision. The sixth circuit court reversed the district court's decision, finding that land which is inundated and supports a prevalence of wetlands vegetation may be wetlands under the Corps' definition only if the vegetation is caused by the inundation. The case was appealed to the Supreme Court. The Supreme Court reversed the circuit court's ruling, noting that the Corps had interpreted its jurisdiction correctly.

Also added to the Act in the 1977 amendments was a mechanism which provided for qualified state programs to assume the permitting program within a portion of Corps' jurisdiction. Exemptions for certain agricultural and industrial activities were also included. Section 208 [33 U.S.C.A. sec. 1288 (1986)] provided for an alternative control program for certain categories of activities

operating through state-controlled best management practices.

3. Other Federal Statutes

Other federal statutes are also important in the preservation of wetlands. The Fish and Wildlife Coordination Act of 1934 [FWCA] [16 U.S.C.A. 661 et seq. (1985), as amended (Supp. 1987)] was designed to ensure that wildlife conservation was considered during construction projects involving water resources. After several major revisions since original adoption, FWCA now requires that federal agencies or any private agency under federal permit or license must consult with the Fish and Wildlife Service [FWS], National Marine Fisheries Service [NMFS], and state wildlife agencies before beginning construction of projects affecting watercourses. The FWS, NMFS, and state wildlife agencies are authorized to evaluate the impacts of federally funded, permitted, or licensed water resources development projects and to recommend ways to mitigate or avoid damages to fish and wildlife resources [16 U.S.C.A. sec. 662 (1985), as amended (Supp. 1987)].

The construction agency must include reports from the wildlife agencies in proposals submitted to Congress or to the agency authorizing the project. In project proposals by the Corps, a Coordination Act Report from the FWS must be included in the request for project authorization which is submitted to Congress. Reports must contain an account of

the project's effect on wildlife, and an estimation of the cost of mitigating damage to any wildlife agency lands involved in the project. While the Corps must consider the recommendations during project planning, it is not required to adopt those recommendations [16 U.S.C.A. sec. 662 (1985), as amended (Supp. 1987)]. The FWS does not have any enforcement power except in projects involving Service-administered lands (Hirsh and Segelquist, 1978).

In 1967, the Secretary of the Army and the Secretary of the Interior entered into a Memorandum of Understanding [44 Fed. Reg. 29323 (1979)] in which they outlined cooperative procedures for the evaluation of dredge and fill permit applications. According to this agreement, the field level FWS offices could appeal decisions made by Corps' District Offices involving construction projects. Appeals made at the field office level were elevated for consideration to the regional office and then, if necessary, to the Secretary of the Army and Under-Secretary of the Interior for consideration. However, the Corps still made the final decision.

According to the Corps, too many permits were being elevated, so in 1980 a second Memorandum of Understanding [45 Fed. Reg. 62768 (1980)] was adopted between the two agencies. As stated in the agreement, an effort would be made to resolve disagreements at field level offices. In addition, applications were divided into three major

categories. First were those considered as routine applications, and they could not be elevated past the Corps' District Engineers. Second were those dealing with emergency policy issues, having substantial impact, or contributing to large cumulative impacts. Applications in the second category could be elevated as far as the Secretary of the Army. Finally were those applications with major actions requiring environmental impact statements. Applications in the final category could also be elevated to the Secretary of the Army. This Memorandum of Understanding was considered weaker than the previous one, but it allowed for faster permit review. A third Memorandum of Understanding [47 Fed. Reg. 29878 (1982)] was adopted in 1982. According to this agreement, the District Engineer makes the final permit decision in the majority of cases, and the elevation process is made at the discretion of the Corps. It also reduced the time allowed for the FWS to comment on an application. This third agreement has resulted in very few applications being elevated by the FWS (Drabelle and Reed, 1984).

In addition to the FWCA, the Migratory Marine Game-Fish Act [16 U.S.C.A. 760(c) et seq. (1985)], the Marine Protection, Research, and Sanctuaries Act [16 U.S.C.A. 1431 et seq. (1985), as amended (Supp. 1987)], and the Fish and Wildlife Act of 1956 [16 U.S.C.A. 742(a) et seq. (1985), as amended (Supp. 1987)] also require federal agencies wanting

to alter any body of water to consult with the FWS, the NMFS and applicable state agencies prior to implementation of activities. The Endangered Species Act [16 U.S.C.A. 1531 et seq. (1985), as amended (Supp. 1987)] requires federal agencies, in consultation with the FWS and the NMFS, to insure protection of endangered or threatened species and the ecosystems on which those species depend for activities authorized, funded, or carried out by those agencies.

NEPA closely resembles the FWCA in some aspects but is substantially broader in scope. NEPA requires federal agencies to follow certain procedures for consideration of environmental factors in agency decisionmaking [42 U.S.C.A. sec. 4332 (1977), as amended (Supp. 1987)]. The Act created the Council on Environmental Quality [CEQ] which is required to study and submit a report to the President on the trends and problems in environmental quality and to oversee implementation of NEPA [42 U.S.C.A. sec. 4342 (1977), as amended (Supp. 1987)]. Section 102(c) [42 U.S.C.A. sec. 4332 (1977), as amended (Supp. 1987)] of NEPA requires all federal agencies involved in major federal projects that significantly affect the environment to submit a detailed statement to the CEQ on the impact of the proposed action.

The CEQ compiled a set of guidelines [40 C.F.R. part 1500 (1987)] which agencies can use to comply with NEPA. According to the CEQ guidelines, agencies must first make an environmental assessment of the proposed project. The

environmental assessment may lead to either a finding of no significant impact [FONSI] or a decision to prepare an environmental impact statement [EIS] [44 C.F.R. part 1501.4 (1987)]. CEQ guidelines for section 102 of NEPA prescribe a set of procedures for federal agencies to use in preparation of an EIS. An EIS includes disclosure of environmental impact, unavoidable adverse environmental effects, alternatives to the project, long and short-term uses, and irreversible or irretrievable resource commitments [44 C.F.R. part 1502 (1987)]. The CEQ may comment on an EIS, but it has no enforcement power [42 U.S.C.A. sec. 4332 (1977), as amended (1987)].

According to section 404 of the CWA, projects authorized by Congress are not subject to regulations under the Act if the effects of the discharge have been addressed in an environmental impact statement, subject to 404(b) guidelines [33 U.S.C.A. sec. 1344(r) (1986), as amended (Supp. 1987)]. Section 404(b) guidelines state that the Administrator of EPA may prohibit certain areas from being used as disposal sites for dredge or fill material if disposal in those areas may have adverse impacts on municipal water supplies, shellfish beds and fishery areas, wildlife, or recreational areas [33 U.S.C.A. sec. 1344(b) (1986), as amended (Supp. 1987)].

The Corps originally believed that the EIS requirement did not apply to the licensing of discharges under RHA

section 13 when there was only a question of water quality impact. However, this position was overturned by a federal district court in a 1971 case, *Kalur v. Resor* [335 F. Supp. 1 (D.D.C. 1971)]. In another case, *Sierra Club v. Morton* [400 F.Supp. 610 (N.D. Cal. 1975)], a federal district court held that an EIS was also required for permit applications under sections 9 and 10 of the RHA unless the Corps determined that the proposed project would not have a significant environmental effect.

The Coastal Zone Management Act of 1972 [CZMA] [16 U.S.C.A. 1451 et seq. (1985), as amended (Supp. 1987)] was designed to "preserve, protect, develop, and where possible restore or enhance the resources of the nations' coastal zone" [16 U.S.C.A. sec. 1452 (1985), as amended (Supp. 1987)]. This Act urges states to develop management programs for use of land and water resources of the coastal zone. The programs are to consider ecological, cultural, historical, and aesthetic values, as well as economic development [16 U.S.C.A. sec. 1454 (1985)]. Federal agencies are encouraged by the Act to cooperate with the state and local agencies responsible for implementation [16 U.S.C.A. sec. 1456, as amended (Supp. 1987)]. The Act gave states two major incentives for adopting a coastal zone management plan. First, it provided federal funds for the state programs which had received federal approval by the Assistant Administrator for Coastal Zone Management of the

National Oceanic and Atmospheric Administration [NOAA]; and second, it provided states a potentially effective means of gaining control over certain federal decisions (Finnell, 1978). Permits issued by the Federal Government for activities within the jurisdiction of a state management program must be certified as consistent with state authority. The Coastal Zone Management Improvement Act of 1980 [16 U.S.C.A. 1451 et seq. (1985), as amended (1987)] is a reaffirmation of the CZMA. It requires state coastal zone management programs to expressly include "priority considerations" being given to coastal dependent uses and orderly processes of siting major facilities related to national defense.

Virginia has had a federally approved coastal zone management program since October 6, 1986. According to the Council on the Environment (p. 39, 1987):

The Virginia Coastal Resources Management Program is a minimal approach in that it requires no new state programs, staff, organizations, regulations, or laws. It is based on an approach termed "networking" which provides a framework and process for linking existing state programs, agencies, laws, etc. into a system that meets federal requirements for an effective state program.

Eight programs provide the basic framework for the system including fisheries management, subaqueous lands management, wetlands management, dunes management, nonpoint source pollution control, point source pollution control, shoreline

sanitation, and pollution control (Council on the Environment, 1987).

The National Historic Preservation Act of 1966 [16 U.S.C.A. 470 et seq. (1985), as amended (Supp. 1987)] created the Advisory Council on Historic Preservation which reviews and comments on activities licensed by the Federal Government that affect areas listed in the National Register of Historic Places. The Preservation of Historical and Archaeological Data Act of 1974 [16 U.S.C.A. 469 et seq. (1985), as amended (Supp. 1987)] authorizes the Department of Interior to recover and preserve significant historical or archaeological data threatened by a federal construction project or federally licensed project before that project begins.

Two relatively new laws have been enacted, eliminating federal policies that encouraged destruction of wetlands. The Food Security Act of 1985 [7 U.S.C.A. 1281 et seq. (1972), as amended (Supp. 1987)] includes the "swampbuster" provision [16 U.S.C.A. sec. 3821 (Supp. 1987)]. This provision limits federal price support, payments, certain loans, and other benefits to farmers who grow crops on newly converted wetlands. However, the Department of Agriculture's interpretation of this Act has provided a loophole for farmers. Farmers are exempt from the Act if earth moving was started or if money was contractually

applied to convert the land prior to enactment of the statute (Barton, 1987).

In 1986, the Tax Reform Act [16 U.S.C.A. 3801 et seq. (1985), as amended (Supp. 1987)] repealed or changed provisions of the tax code that provided incentives for converting wetlands into croplands. Prior to enactment of this law, the tax code allowed a number of income-tax deductions and credits that encouraged draining wetlands (Barton, 1987).

4. Program Administration

According to its rules and regulations, the Corps' administration of its regulatory program is divided among 36 district engineers and 11 division engineers [33 C.F.R. part 320.1(a) (1986)]. Applicants may request pre-application consultations with the Corps' regulatory staff [33 C.F.R. part 325.1(b) (1986)]. Applications must contain the following information [33 C.F.R. part 325.1(d) (1986)]:

A complete description of the proposed activity including necessary drawings, sketches or plans sufficient for public notice; the location, purpose and need for the proposed activity; scheduling of the activity; the names and addresses of adjoining property owners; the location and dimensions of adjacent structures; and a list of authorizations required by other federal, interstate, state, or local agencies for the work, including all approvals received or denials already made.

When an application is received by the Corps, it is assigned an identification number. Within 15 days of receiving a completed application, the district engineer

issues a public notice. Comments received by the district engineer concerning the proposed activity are considered during review of the application. Between 15 and 30 days are allowed for public comment. Applications are reviewed to determine whether an environmental assessment or an EIS is required. If needed, a public hearing is called [33 C.F.R. part 325.2 (1986)]. Public hearings are also held if a permit is to be modified or revoked [33 C.F.R. part 327.4 (1986)]. Anyone at the hearing may submit a written or oral statement concerning the proposed activities or permit modifications [33 C.F.R. part 327.8 (1986)]. The district engineer will then determine if the permit should be issued. A record of decision on an EIS or a statement of findings will be issued, including the district engineer's views on effects of the proposed work on the public interest. A decision on a permit must be made within 60 days of receiving the completed application. If a permit is approved, the district engineer will determine the special conditions, if any, and duration which should be incorporated into the permit. Final action on a permit is either a denial in writing sent to the applicant or a permit form sent to the applicant to be signed. The permit is not valid until signed by the district engineer [33 C.F.R. part 325.2 (1986)].

A scientific database about wetland values and operational evaluation methods was developed by the Corps'

Institute for Water Resources located at Fort Belvoir, Virginia. Technical guidance for the permit review was provided in a report released by the Corps and EPA in 1979 called Wetland Values: Concepts and Methods for Wetlands Evaluation. Wetlands evaluation methods are analytical in nature because many persons reviewing permits do not have technical backgrounds. Each site is examined for physical and biological parameters which indicate what wetlands functions are taking place and the efficiency with which those functions are being performed. Wetlands which perform certain valuable functions include the following [33 C.F.R. part 320.4(b)(2) (1986)]:

- (1) Wetlands which serve significant natural biological functions, including food chain production, general habitat, spawning, rearing and nesting sites for aquatic or land species;
- (2) Wetlands set aside for study of the aquatic environment or as sanctuaries or refuges;
- (3) Wetlands the destruction or alteration of which would affect detrimentally natural drainage characteristics, sedimentation patterns, salinity distribution, flushing characteristics, current patterns, or other environmental characteristics;
- (4) Wetlands which are significant in shielding other areas from wave action, erosion, or storm damage. Such wetlands are often associated with barrier beaches, islands, reefs and bars;
- (5) Wetlands which serve as valuable storage areas for storm and flood waters;
- (6) Wetlands which are ground water discharge areas that maintain minimum baseflows important to aquatic resources and those which are prime natural recharge areas;
- (7) Wetlands which serve significant water purification functions; and
- (8) Wetlands which are unique in nature or scarce in quantity to the region or local area.

Factors weighed in the application review include "conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people." [33 C.F.R. part 320.4 (a)(1) (1986)]. Every application reviewed by the Corps is evaluated with the following general criteria [33 C.F.R. part 320.4 (a)(2) (1986)]:

- (1) The relative extent of the public and private need for the proposed structure or work;
- (2) Where there are unresolved conflicts as to resource use, the practicality of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work; and
- (3) The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited.

No permit will be granted for alterations of areas if they are part of a complete and interrelated wetlands area [33 C.F.R. part 320.4(b)(3) (1986)].

The issue over use of reasonable alternative locations has been debated in one recent court case [Bersani v. EPA (DC NNY, 1987)]. Pyramid Companies had applied to the Corps for a permit for proposed development of a mall in North Attleboro, Mass. The proposed mall would fill or alter 45

acres of forested wetlands. To compensate for this loss, the developer was to construct 35 to 50 acres of wetlands at a different site and to enhance existing wetlands at the project site. The Corps maintained that this mitigation was acceptable and issued a permit for the project. EPA rescinded the permit on the grounds that the proposed mitigation measures would not have been adequate due to uncertainties involved with man-made wetlands and because the developer had not considered alternative sites for the project. Pyramid Companies sued EPA claiming that EPA lacked authority to consider whether alternatives existed. The circuit court ruled in favor of EPA, finding that EPA did have authority to consider alternatives when reviewing effects of projects on wetlands [26 ERC No. 19, pp. 1678-1691 (1987)]. In the past, EPA used its veto power over Corps' decisions only eight times. It is expected that, in the future, EPA will more frequently use its veto power. Increased public pressure is expected to encourage EPA to take a more active role in review of wetlands permit decisions made by the Corps (Seltzer and Steinberg, 1987).

Policies applicable to the permit review include compliance with the FWCA, compliance with effluent limitations and water quality standards of the CWA, and historical, cultural, scenic, and recreational value considerations. Authorization of work or activities associated with a permit does not convey a property right or

authorize injury or invasion of the rights of other individuals. If a project is likely to cause damage to adjoining property, then the application may be denied. Also, any activities that will interfere with access to or use of navigable waters will generally be denied [33 C.F.R. part 320.4 (1986)].

Before the Corps can issue a permit, section 401 requires that the state must certify the proposed construction activities will not violate either ambient water quality standards or effluent discharge limitations. Certification for construction of a facility must also pertain to discharges relating to operation of that facility [33 C.F.R. part 320.3(a) (1986)]. The Corps' program provides a presumption in favor of state decisions. If other Federal, state, or local permitting or licensing requests for a project are denied by those agencies, in all likelihood the Corps will also deny a permit for the same project without prejudice. The Corps recognizes that states may already have programs which regulate activities covered by the 404 program. If those states deny an application, the Corp will not issue a permit. If a state issues a permit, the Corp will also issue a permit unless there are overriding national factors of public interest judged to be sufficient grounds for denial.

Where the required Federal, state and/or local authorization or certification has been denied for activities which also require a Department of the Army

permit before final action has been taken on the Army permit application, the district engineer will, after considering the likelihood of subsequent approval of the other authorization and/or certification and the time and effort remaining to complete processing the Army permit application, either immediately deny the Army permit without prejudice or continue processing the application to a conclusion. If the district engineer continues processing the application, he will conclude by either denying the permit as contrary to the public interest, or denying it without prejudice indicating that except for the other Federal, state or local denial the Army permit could, under appropriate conditions, be issued [33 C.F.R. part 320.4(j) (1986)].

In effect, this gives state and local governments a qualified veto power over certain Corps' decisions (Power, 1977). If a district engineer makes a decision on an application that is contrary to state and local decisions, the district engineer will include in the decision document the significant national issues and explain how they are overriding in importance [33 C.F.R. part 325.2 (1986)].

Permits are not required for dredging activities if material is not discharged into the water. In addition, 404 permits are not required for activities which change upland drainage patterns and block runoff into wetlands because they are not considered a direct discharge into the wetlands. Activities having minor impacts and certain federally authorized projects are exempt from the program. Specific practices exempt from the 404 program include [33 C.F.R. part 323.4(a) (1986)]:

- (1) farming, silviculture, ranching activities; minor drainage; harvesting of food, fiber or forest products; upland soil and water conservation practices;

- (2) maintenance of dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments and transportation structures;
- (3) construction or maintenance of farm or stockponds or irrigation ditches;
- (4) construction of temporary sedimentation basins on construction sites, but excluding the placement of fill material into navigable waters;
- (5) construction and maintenance of farm or forest roads, temporary mining roads; and
- (6) congressionally approved projects that have filed an Environmental Impact Statement [EIS].

Disposal sites for fill are selected and used in accordance with guidelines developed by the Administrator of EPA in conjunction with the Secretary of the Army. If use of the site is prohibited by the guidelines, the Chief of Engineers will consider the economic impact on navigation and anchorage of the prohibited use in decision making processes. EPA can withdraw sites from use after consultation with the Corps and after a public hearing if it is found that use of these sites will have adverse impacts on municipal water supplies; shellfish beds; or fishery, wildlife, or recreational areas [33 C.F.R. part 320.2(f) (1986)].

EPA has three main roles in the 404 program. It is responsible for defining CWA jurisdiction, for implementing guidelines for the program (including the power to veto or set conditions in all permits issued), and for enforcing the statute (Blumm, 1980; Caplin, 1977; Ray, 1987). According to a decision by the Attorney General, EPA has final authority to determine which waters are navigable and what

activities are exempt from the permit requirement. The Corps and EPA entered into a Memorandum of Understanding [45 Fed. Reg. 70564 (1980)] to establish procedures for making jurisdictional determinations. Except in cases where EPA has a special interest or where there are difficulties in determining the jurisdiction, the Corps makes the decisions. EPA has established two areas it considers special cases. These include all areas containing specified types of bottomland hardwoods and a 1200 acre area known as Balsa Chica Gap in Orange County, California.

The Corps relies on coordination efforts with citizens and local, state, and other federal agencies for detecting unauthorized activities that require permits. When a violation has been reported and confirmed, the responsible parties are formally notified of the violation. In the case of incomplete projects, the responsible parties are sent cease and desist orders prohibiting further work. In determining what corrective measures may be needed, the district engineer is required to consult with EPA, FWS, NMFS, and any other government agencies that may provide assistance. If initial corrective measures are required to prevent serious threat of life, property, or important public resources, the responsible party is sent an order describing corrective actions to be taken and time limits for completing those actions. The responsible party may apply for after-the-fact permits for work that has already

been completed. All activities should be coordinated with the EPA [33 C.F.R. part 326.3 (1986)].

Whenever possible, the Corps and any other agency involved in the permitting program inspect permitted activities to make sure they comply with conditions set out by the permits. If a permittee does not comply with those conditions, the Corps may take steps to correct the violation on a voluntary basis. If compliance is then not met, a written order requiring compliance is issued. The permittee has 30 days to comply with the order. Legal action may then be taken [33 C.F.R. part 326.4 (1986)]. Legal actions are handled by the local U.S. Attorney [33 C.F.R. part 326.5 (1986)].

The Corps was only able to administer its increased jurisdiction in the 404 program by issuing general permits for discharges into certain waters or for given categories of activities (Conner, 1983). General permits include both regional and nationwide permits. If an activity is covered by a general permit, an individual application need not be filed. However, activities must comply with conditions stated in the general permits [33 C.F.R. part 320.1(c) (1986)]. Special conditions are any constraints or guidelines necessary to satisfy legal or public interest requirements for alteration of wetlands [33 C.F.R. part 325.4(a) (1986)]. The following regional permits are in effect in the Norfolk District (Corps, 1987):

- (1) GP-04. Placement of structures supporting private aids to navigation.
- (2) GP-07. Construction of private piers and/or mooring piles in Lake Rudee, Lake Wesley, and Owl Creek in Virginia Beach.
- (3) GP-09. Construction of private piers, boathouses and/or mooring piles in Carter Creek, Lancaster County.
- (4) GP-10. Construction of private piers, boathouses and/or mooring piles in Jackson Creek, Middlesex County.
- (5) GP-11. Construction of private piers, boathouses and/or mooring piles in Taylor Creek, Lancaster County.
- (6) GP-12. Construction of private piers, boathouses and/or mooring piles in Urbanna Creek, Middlesex County.
- (7) GP-13. Construction of private piers and/or mooring piles in Broad Bay, Virginia Beach.
- (8) GP-14. Virginia Department of Highways and Transportation activities in the Commonwealth of Virginia.
- (9) GP-15. Maintenance of existing mosquito control ditches in the Commonwealth of Virginia.
- (10) GP-16. Maintenance of existing drainage ditches in the Commonwealth of Virginia.
- (11) GP-17. Construction of private piers and/or mooring piles in waters in the Commonwealth of Virginia (excluding where other General Permits have been issued for piers along Broad Creek in Middlesex County and Fishermans Cove in Virginia Beach and Norfolk).
- (12) GP-18. Projects of minor environmental consequence.
- (13) GP-19. Groins and spurs, aerial transmission lines, maintenance dredging previously approved by Corps with upland disposal, boat ramps and accessory structures, boathouses, crab pound, bulkhead repair/replacement up to two feet channelward of an existing structure.
- (14) GP-21. Placement of marine life harvesting devices.

Nationwide permits are designed to allow certain activities to occur with little, if any, delay or paperwork. They are valid only when conditions outlined by the permit are met. Some require that the district engineer be

informed before activities begin [33 C.F.R. part 330.1 (1986)]. The following is a list of activities or structures authorized by nationwide permits [33 C.F.R. part 330.5 (1986)]:

- (1) Aids to navigation and regulatory markers approved by the U.S. Coast Guard;
- (2) Structures built in residential areas in artificial canals in residential areas authorized to connect with navigable waters;
- (3) Repair, rehabilitation, or replacement of any previously authorized structure or fill. This does not include maintenance dredging and beach restoration;
- (4) Fish and wildlife harvesting devices and activities such as nets, traps, blinds, and clam and oyster digging;
- (5) Scientific structures such as staff gages, tide gages, and water recording devices;
- (6) Survey activities including core sampling and exploratory operations. This does not include exploration drilling for oil and gas;
- (7) Outfall structures and associated intake structures which have NPDES permits and approval from the district or division engineer;
- (8) Structures for the exploration, production and transportation of oil, gas and minerals on the outer continental shelf in areas leased by the Department of Interior, Mineral Management Services;
- (9) Structures in anchorage or fleeting areas established by the U.S. Coast Guard for moorage of vessels;
- (10) Non-commercial, single-boat mooring buoys;
- (11) Temporary buoys and markers for recreational uses. They must be removed within 30 days after final use;
- (12) Discharges of material for backfill or bedding of utility lines where there will be no change in preconstruction bottom contours;
- (13) Bank stabilization activities which are less than 500 feet long, are needed to prevent erosion, are limited to less than an average of one cubic yard per running foot placed along the bank, uses only the minimum amount of material, places no material in wetland areas or impairs the flow of surface water into or out of wetland areas, uses only clean material, and is for only one project;

- (14) Minor road crossing fills involving less than 200 cubic feet of fill material below the ordinary high water mark of a project for crossing a non-tidal waterbody. Discharges into adjacent wetlands cannot extend more than 100 feet past the ordinary high water mark;
- (15) Discharges of dredged or fill material incidental to the construction of bridges across navigable waters;
- (16) Discharge of upland water containing dredged material, provided the discharge meets state effluent limits under the CWA. Dredging in navigable waters requires a permit;
- (17) Fills from small hydropower projects leased by the Federal Energy Regulatory Commission;
- (18) Discharges of dredge or fill material into waters other than wetlands which are less than 10 cubic yards;
- (19) Dredging ten cubic yards or less of material from navigable waters. This does not include connection of canals or artificial waterways;
- (20) Structures, work and discharges for the containment and cleanup of oil and hazardous substances;
- (21) Structures, work, and discharges from surface coal mining activities authorized by the Department of Interior, Office of Surface Mining or by approved state programs;
- (22) Minor work, fills, or temporary structures required for the removal of wrecked, abandoned, or disabled vehicles, or the removal of man-made obstructions to navigation;
- (23) Activities undertaken, assisted, authorized, regulated, funded, or financed by a federal agency which has determined, pursuant to NEPA, that the activity is excluded from environmental documentation because it does not significantly effect the environment. The Office of the Chief of Engineers must be notified of and concur with these activities;
- (24) Any activity permitted by a state administering its own section 404 permit program;
- (25) Discharges of concrete into sealed forms or cells where the concrete is used as a structural member which would not otherwise be subject to the CWA jurisdiction;
- (26) Discharges of dredge or fill material in the following waters except those which cause loss or substantial modification of 10 acres or more of such waters, including wetlands: non-tidal rivers, streams and their lakes and impoundments,

including adjoining wetlands that are located above the headwaters; other non-tidal waters which are not part of a surface tributary system to interstate or navigable waters. For discharges causing loss or modification of one to 10 acres of such waters, notification to the district engineer is required.

In order to reduce the environmental impact of discharges, certain management practices are required by the Corps. Discharges should be avoided or minimized whenever possible, including discharges into wetlands. Discharges in spawning areas during spawning season should be avoided, and discharges should not restrict or impede the movement of aquatic species. If the discharge creates an impoundment of water, adverse impacts on the aquatic system caused by the accelerated passage of water or restriction of its flow should be minimized. Heavy equipment working in wetlands should be placed on mats. Discharges into breeding areas for migratory waterfowl should be avoided. All temporary fill should be removed entirely [33 C.F.R. part 330.6 (1987)].

B. Virginia Wetlands Act

This subsection contains a brief history of the development of the VWA and an analysis of the administration of the program as defined by the Act. Included in the analysis is a description of state and local jurisdictions with respect to wetlands.

1. History

Before the 1960's, little effort was made by Virginia to protect wetlands. Developers were required to obtain permits for some dredge and fill operations [Va. Code Ann., sec. 62.1-3 (Supp. 1971)], but often the regulations were undercut by poor enforcement efforts (Virginia Law Review, 1972). In 1967, through a legislative study committee, wetlands protection was recommended to Virginia legislators (Brion, 1973; VMRC, 1986). The 1968 session of the Virginia General Assembly acted on this recommendation and funded a study by Virginia Institute of Marine Science [VIMS] [Acts of Assembly, House Joint Resolution 69, p. 1577 (1968)]. VIMS serves in an advisory capacity in the area of marine science to the Virginia Marine Resources Commission [VMRC] and other state agencies. VMRC manages marine resources in Virginia. The Governor appoints six members to VMRC and a chairman who serves as Commissioner of Marine Resources [Va. Code Ann., sec. 28.1-4 (1985)]. In 1969, VIMS issued a

report stating that wetlands in Virginia were being threatened and suggested that legislation be developed for their protection. After a failure to adopt wetlands protection measures in 1970, the Virginia Wetlands Act [VWA] [Va. Code Ann., sec. 62.1-13.6 thru 13.20 (1987)] was passed in 1972.

2. Program Administration

In adopting the VWA, the Virginia General Assembly recognized the importance of wetlands and established a policy "to preserve the wetlands and to prevent their depoliation and destruction and to accommodate necessary economic development in a manner consistent with wetland preservation." [Va. Code Ann., sec. 62.1-13.1 (1987)].

VMRC, with the advice of VIMS, was authorized by the Act to develop guidelines to implement the requirements of the Act [Va. Code Ann., sec. 62.1-13.4 (1987)].

Through the VWA, 46 political subdivisions in Tidewater Virginia were authorized to adopt a model ordinance and appoint a local board to oversee administration of tidal wetlands protection measures within their jurisdiction [Va. Code Ann., sec. 62.1-13.5 (1987)]. One goal of the VWA was to achieve as much public involvement in wetlands protection as possible. State agencies' roles were designed to give the expertise needed and to insure a degree of consistency in decisions made by local boards. The model ordinance was adopted to give wetlands regulations a certain degree of

uniformity (Brion, 1973; Virginia Marine Resources Commission, 1986). If localities do not exercise their jurisdiction, VMRC administers the program. Persons wishing to encroach on or over wetland habitats must receive a permit from the local board or from VMRC [Va. Code Ann., sec. 62.1-13.5 (1987)].

Thirty local jurisdictions have adopted wetlands boards, which control approximately 94 percent of the intertidal wetlands in Virginia. The City of Newport News failed to re-enact its program and let its jurisdiction revert back to VMRC. The following is a list of the thirty localities which have established local wetlands boards (Virginia Marine Resources Commission, 1986):

Accomack County	Middlesex County
Charles City County	New Kent County
Chesapeake	Norfolk
Colonial Heights	Northampton County
Essex County	Northumberland County
Fairfax County	Poquoson
Gloucester County	Prince William County
Hampton	Richmond County
Hopewell	Stafford County
Isle of Wight County	Suffolk County
James City County	Virginia Beach
King George County	West Point
King William County	Westmoreland County
Lancaster County	Williamsburg
Mathews County	York County

Wetlands boards may consist of five to seven local residents appointed by the governing body of that locality. Appointments are made for five years. Members cannot hold any other public office in that locality unless they are members of the local planning or zoning commission, director

of soil and water conservation boards, or local erosion commissions. Board members elect a chairman and any other officers needed for one year terms. The board must keep a full public record of its proceedings and must make annual reports of activities to VMRC. The local governing body must supply a meeting place for the board and any support staff needed [Va. Code Ann., secs. 62.1-13.6 thru 13.8 (1987)].

Vegetated wetlands are defined by the VWA as land between the mean low water mark and an elevation 1.5 times mean tide range containing species of vegetation as listed by the Act. The vegetated wetlands of Back Bay, North Landing River and their tributaries include all marshes flooded during normal high tides [Va. Code Ann., sec. 62.1-13.2(f) (1987)]. Nonvegetated wetlands include land between mean low water and mean high water that are not otherwise considered vegetated wetlands. These also include Back Bay and North Landing River [Va. Code Ann., sec. 62.1-13.2(1) (1987)].

Local boards' jurisdiction includes all vegetated and nonvegetated wetlands up to 1.5 times the mean tide range as defined by the Act. According to the VWA, VMRC is also subject to the same jurisdiction. However, VMRC does not issue permits for activities in wetlands areas if a local board has already issued permits for those activities. This is consistent with VMRC's traditional jurisdiction that

includes subaqueous beds up to the mean low water mark. However, VMRC does review decisions made by local boards on the permit applications. In localities where there are no wetland boards, VMRC will review permit applications and issue permits for those localities.

Significant wetlands areas are beyond the influence of the state permit program. Land owned by the Federal Government which is exempt from the VWA includes 11,900 acres in refuges and 28,700 acres on military bases (Mabbs-Zeno, 1980). Activities on state owned land are regulated by VMRC (Brion, 1973).

Several activities are allowed on wetlands without a VWA permit. They include [Va. Code Ann., sec. 62.1-13.5 (1987)]:

- (a) The construction and maintenance of noncommercial catwalks, piers, boathouses, boat shelters, fences, duckblinds, wildlife management shelters, footbridges, observation decks and shelters and other similar structures; provided that such structures are so constructed on pilings as to permit the reasonably unobstructed flow of the tide and preserve the natural contour of the wetlands;
- (b) The cultivation and harvesting of shellfish, and worms for bait;
- (c) Noncommercial outdoor recreational activities; including hiking, boating, trapping, hunting, fishing, shellfishing, horseback riding, swimming, skeet and trap shooting, and shooting preserves; provided that no structure shall be constructed except as permitted in subsection (a) of this section;
- (d) The cultivation and harvesting of agricultural, forestry or horticultural products; grazing and haying;
- (e) Conservation, repletion and research activities of the Virginia Marine Resources Commission, the

- Virginia Institute of Marine Science, Department of Game and Inland Fisheries, and other related conservation agencies;
- (f) The construction or maintenance of aids to navigation which are authorized by governmental authority;
 - (g) Emergency decrees of any duly appointed health officer of a governmental subdivision acting to protect the public health;
 - (h) The normal maintenance, repair or addition to presently existing roads, highways, railroad beds, or the facilities of any person, firm, corporation, utility, federal, state, county, city or town abutting on or crossing wetlands, provided that no waterway is altered and no additional wetlands are covered;
 - (i) Governmental activity on wetlands owned or leased by the Commonwealth of Virginia, or a political subdivision thereof; and
 - (j) The normal maintenance of man-made drainage ditches, provided that no additional wetlands are covered; and provided further, that this paragraph shall not be deemed to authorize construction of any drainage ditch.

In addition, some activities and areas in Virginia are covered by general permits. These include (Virginia Marine Resources Commission, 1985-1986):

- (1) VGP-1. For projects which conform to certain criteria and are undertaken by Virginia Department of Highways & Transportation in, on or over state-owned subaqueous land anywhere in the Commonwealth.
- (2) VGP-2. For groin projects designed to control shoreline erosion which conform to certain criteria and are subaqueous lands in waters of the Commonwealth.

If activities involving wetlands are not included on the list noted above, the person must file a permit application with the local board or VMRC. Within 60 days of receiving a completed application, the local board holds a public hearing on the application. The applicant, the local

governing body, the Commissioner of VMRC, adjacent property owners, known claimants of water rights in or adjacent to the wetlands in question, VIMS, the Department of Game and Inland Fisheries, the Water Control Board, VDH&T, and other interested government agencies are notified of the hearing. The Board must also publish a notice of the meeting in the local paper. Meetings are open to the public, and anyone is allowed to submit a written or oral statement. If the board does not make a decision on the permit within 30 days of the meeting, the permit will automatically be approved. Also, unless action on a permit is taken by VMRC or the local boards within 90 days of submittal of a completed application, it is automatically approved. Copies of applications are sent to VIMS for review. A notice of the board's decision is sent to the applicant and the Commissioner of VMRC within 48 hours after the decision has been made [Va. Code Ann., sec. 62.1-13.5 (1987)].

VMRC, with the advice of VIMS, has developed guidelines to help in the application review process. Guidelines adopted in 1974 by VMRC contained two significant features. First, Virginia wetlands were classified into 12 vegetative types easily identifiable in the field by laymen. Relative values were attached to each type in order to facilitate decision making processes. Second, specific suggestions were presented that would eliminate or mitigate adverse impacts if activities were permitted in wetlands. VIMS

makes field investigations and provides written, technical advice to both VMRC and the applicant (Dawes, 1978). In 1977 VIMS developed a system to help determine the quality of wetlands being considered in permit applications. The system is based on biologic, hydrologic, and geomorphic factors. Eight parameters are measured at a site to evaluate wetlands quality for natural uses (Mabbs-Zeno, 1980). In addition, VIMS made an inventory of wetlands and their vegetative characteristics, including all wetlands 0.25 acres or larger and small fringe marshes. The inventory was published and distributed on a county-by-county basis (Dawes, 1978).

Local boards and VMRC staff are required to attend workshops set up by VIMS. The workshops are designed to help individuals make field identification of inland wetland limits. Other topics discussed at the workshops include wetland values, plant identification, impacts of activities in wetlands, methods of avoiding or minimizing adverse impacts, and technical assistance available to the boards. Materials from the workshops are published and made available to board members (Dawes, 1978).

In determining whether applications will be granted or denied, standards were developed which have to be considered by the boards. First, wetlands of primary ecological significance should not be altered if that alteration would cause unreasonable disturbance to the wetland ecosystem.

Second, development should take place in "wetlands of lesser ecological significance, in vegetated wetlands which have been irreversibly disturbed before July 1, 1972, in non-vegetated wetlands as described herein which have been irreversibly disturbed prior to January 1, 1983, and in areas of Tidewater Virginia apart from the wetlands" [Va. Code Ann., sec. 62.1-13.3 (1987)]. The Act states that wetlands should not be developed unless there is justification for development. Such justification might include allowing needed economic development in the community; limiting interference with private property rights; and balancing of the public and private benefits versus detriments listed by the ordinance. While reviewing a permit the Board considers statements submitted during the public meeting and the impact of the development on the public health and welfare. If the benefits of the proposed activity exceed the detriments, the board grants the permit, subject to any modifications or conditions to lessen the effects on the wetlands [Va. Code Ann., sec. 62.1-13.5 (1987)].

The Commissioner of VMRC reviews all decisions made by local boards and notifies VMRC if there are any decisions which need to be reviewed [Va. Code Ann., sec. 62.1-13.10 (1987)]. VMRC reviews decisions of the local boards when an applicant appeals the boards' decision, when the Commissioner requests a review or when 25 or more

freeholders of property in the locality of the proposed activity file a petition [Va. Code Ann., sec. 62.1-13.11 (1987)]. Appeal of decisions made by VMRC can be made to the circuit court. The court should review the case in accordance with provisions of the Administrative Process Act [Va. Code Ann., sec. 9-6.14:1 et seq. (1987)], except that the court can change decisions by VMRC or remand the case [Va. Code Ann., sec. 62.1-13.15 (1987)].

VMRC and local boards have the authority to investigate all activities involving wetlands. They may prosecute all violations of VMRC or local boards' regulations [Va. Code Ann., sec. 62.1-13.16 (1987)]. Violations of the regulations are considered misdemeanors, and, after a conviction, each day the violation continues will be considered a separate offense. The court may file injunctions against activities violating wetlands regulations. Injunctions may include orders to restore, protect, and preserve wetlands [Va. Code Ann., sec. 62.1-13.18 (1987)].

III. Analysis of Current Program

The following subsections are an analysis of the current permitting program in Virginia. Subsection A is a description of the application review process for three localities, including decisions by local, state, and federal agencies. Subsection B describes the coordination between the various levels of government. The final subsection describes trends and impacts of the wetlands protection program, including its level of effectiveness and possible problems associated with the program.

A. Application Review

Information on the application review process was obtained by examining files at each agency responsible for program implementation. Files from 1985 through 1986 for Lancaster County, City of Norfolk, and York County were reviewed. Information on the permitting process carried out by the various levels of government was obtained from the three local boards, VIMS, VMRC, and the Corps. A data extraction form was used for each file reviewed. Information from the application file review can be found in Appendix C. A summary of activities in each of the three localities is shown on the following pages in Tables 1 through 4. Information in the tables includes the number of applications approved, denied, and modified by the different

agencies. Other items shown are the number of applications which received general permits from the Corps and from VMRC; whether the applications were for private, commercial, industrial or government use; the number of protest letters received from neighbors; withdrawals; and after-the-fact applications. Some applications received reports from the Virginia Soil and Water Conservation Commission Soil Erosion Advisory Service [SEAS] and from VIMS. Virginia Soil and Water Conservation Commission is responsible for coordinating shore erosion control programs of all state agencies and institutions to protect waterfront property from erosion [Va. Code Ann., sec. 21-11.18 (1987)]. As part of its responsibilities, the Commission was authorized to establish SEAS to assist in carrying out the shore erosion control programs [Va. Code Ann., sec. 21-11.19 (1987)]. SEAS sometimes makes site visits at the request of the applicant. SEAS reports are letters sent to applicants advising on possible erosion control measures. This consultation service is offered free of charge to the residents of the state. VIMS reported on whether a proposed activity would have minor or significant effects and on the size of the wetlands area involved for each permit application. In addition to an application file review, informal interviews were conducted at each agency visited. All of the officials interviewed felt that this program was

effective in preservation of wetlands. They also felt that the public generally supported their program and valued preservation of wetlands.

Norfolk (Table 1) received 33 permit applications in 1985 and 26 in 1986 for a total of 59. One of those applications was withdrawn by the applicant in 1986. During both years, the majority of the permits involved construction of bulkheads, fill, and riprap. In 1985, 21 percent of the applications involved dredging or excavation while in 1986 only four percent of the applications involved dredging or excavation. However, in 1986 a larger percentage of applications involved piers than did those in 1985. Overall, the highest percentage of Norfolk applications involved fill operations. Seventy-three percent of the applications were for private use, and 22 percent were for commercial use. The Norfolk Board approved 97 percent of the 33 applications it received in 1985 and 92 percent of the 25 applications received in 1986. Of those approved, 63 percent were modified in 1985 and 46 percent were modified in 1986. For both years, 95 percent of the applications were approved and 55 percent of those approved were modified. Between three and four percent of the applications were denied.

VMRC did not issue wetlands permits for applications in Norfolk because the local board had already issued permits.

Table 1. Norfolk Permit Review

	1985		1986		TOTALS	
	NO.	%	NO.	%	NO.	%
Total Permits	33	--	26	--	59	--
Corps:						
Approved	31	93.94	23	88.46	54	91.53
Denied	1	3.03	1	3.85	2	3.39
Modified	5	15.15	1	3.85	6	10.17
General	25	75.76	22	84.62	47	79.66
No Jurisdiction	1	3.03	1	3.85	2	3.39
VMRC:						
Approved	32	96.97	24	92.31	56	94.92
Denied	1	3.03	1	3.85	2	3.39
Modified	1	3.03	0	0.0	1	1.69
General	0	0.0	0	0.0	0	0.0
Local Board:						
Approved	32	96.97	24	92.31	56	94.92
Denied	1	3.03	1	3.85	2	3.39
Modified	20	60.61	11	42.31	31	52.54
No Jurisdiction	0	0.0	0	0.0	0	0.0
Proposed Use:						
Private	22	66.67	21	80.77	43	72.88
Commercial	11	33.33	2	7.69	13	22.03
Industrial	0	0.0	1	3.85	1	1.69
Government	0	0.0	2	7.69	2	3.39
Comments:						
Protests	1	3.03	0	0.0	1	1.69
No Report	16	48.48	9	34.62	25	42.37
SEAS Report	4	12.12	3	11.54	7	11.86
Withdrawal	0	0.0	1	3.85	1	1.69
After-the-Fact	3	9.09	5	19.23	8	13.56
VIMS Report:						
Minor	28	84.85	15	57.69	43	72.88
Significant	3	9.09	8	30.77	11	18.64
No Report	2	6.06	3	11.54	5	8.47
Area Involved:						
No Report	1	3.03	2	7.69	3	5.08
Square Feet	101486		47448		148934	
Acres	2.33		1.09		3.42	
Area Permitted						
Square Feet	63486		14230		77716	
Acres	1.46		0.33		1.78	

MLW = Mean Low Water

Table 1. Norfolk Permit Review (cont'd)

Activity:	1985		1986		TOTALS	
	NO.	%	NO.	%	NO.	%
A	3	9.09	7	26.92	10	16.95
B	1	3.03	0	0.0	1	1.69
C	0	0.0	5	19.23	5	8.47
D	20	60.61	14	53.85	34	57.63
E	19	57.58	16	61.54	35	59.32
F	15	45.45	13	50.00	28	47.46
G	7	21.21	1	3.85	8	13.56
H	1	3.03	0	0.0	1	1.69
I	0	0.0	1	3.85	1	1.69
J	0	0.0	0	0.0	0	0.0
K	1	3.03	0	0.0	1	1.69

A = Piers, Marginal Wharves, Boathouses or Marinas
 B = Dolphins or Moorings
 C = Boat Ramps
 D = Bulkheads
 E = Fill
 F = Riprap
 G = Dredging or Excavating
 H = Jetties, Groins or Breakwaters.
 I = Intake or Outfall Structures
 J = Channel Modifications or Impoundment Structures
 K = Submarine Crossings, Overhead Crossings, or Tunnels

However, VMRC did review decisions made by the Norfolk board on permit applications. Ninety-seven percent of the permits issued by the Norfolk board were approved by VMRC in 1985, and 92 percent were approved in 1986 for a total of 95 percent for both years. Only two percent of the applications received modifications from VMRC in 1985. No applications received VMRC modifications in 1986. VMRC denied the same applications which were denied by the Norfolk board.

The Corps approved 94 percent of the 33 Norfolk applications in 1985 and 88 percent of the 26 in 1986. Overall, 92 percent were approved. Between three and four percent of the applications were not in the Corps' jurisdiction because they involved activities exempt from the Corps' program, or modifications made to applications at the local or state level eliminated impacts of the projects on wetlands. Of those approved, 76 percent were subject to general permits in 1985 and 85 percent were covered by general permits in 1986. In addition to modifications made by the local board or VMRC, the Corps modified 15 percent of the permits in 1985 and four percent in 1986. The Corps denied the same applications which were denied by the Norfolk board and by VMRC.

Only one application in 1985 received unfavorable comments from a neighbor. However, records concerning

neighbors' comments were not available for 48 percent of the applications in 1985 and 35 percent in 1986. Fourteen percent of the applications were filed after-the-fact. Twelve percent of the applicants received advice from SEAS.

In 1985, VIMS rated 85 percent of the wetlands alteration activities in Norfolk as having minor effects and nine percent as having significant effects. In 1986, 58 percent involved minor effects while 31 percent involved significant effects. The remainder of the applications did not receive VIMS reports. In 1985, the applications involved a total of 101,486 square feet (2.33 acres) of wetlands. Of those, 63,486 square feet (1.46 acres) were permitted. In 1986, only 47,498 square feet (1.09 acres) were estimated for all applications, with only 14,230 square feet (0.33 acres) receiving permits. Reports on the area involved were not available for five percent of the applications.

Lancaster County (Table 2) reviewed 96 applications in 1985 and 1986. Two were withdrawn from consideration by the applicant. The majority of the applications, 65 percent, involved placement of riprap. Most applications were for private use. The Lancaster County Board approved 95 percent of the applications in 1985 and 98 percent in 1986. Of those, 18 percent were modified in 1985 and 22 percent were modified in 1986. Only one application was denied by the board in 1986.

Table 2. Lancaster County Permit Review

	1985		1986		TOTALS	
	NO.	%	NO.	%	NO.	%
Total Permits	41	--	55	--	96	--
Corps:						
Approved	39	95.12	54	98.18	93	96.88
Denied	0	0.0	1	1.82	1	1.04
Modified	1	2.44	2	3.64	3	3.13
General	37	90.24	51	92.73	88	91.67
No Jurisdiction	0	0.0	0	0.0	0	0.0
VMRC:						
Approved	39	95.12	54	98.18	93	96.88
Denied	0	0.0	1	1.82	1	1.04
Modified	0	0.0	0	0.0	0	0.0
General	0	0.0	1	1.82	1	1.04
Local Board:						
Approved	39	95.12	54	98.18	93	96.88
Denied	0	0.0	1	1.82	1	1.04
Modified	7	17.07	12	21.82	19	19.79
No Jurisdiction	0	0.0	0	0.0	0	0.0
Proposed Use:						
Private	40	97.56	55	100.00	95	98.96
Commercial	1	2.44	0	0.0	1	1.04
Industrial	0	0.0	0	0.0	0	0.0
Government	0	0.0	0	0.0	0	0.0
Comments:						
Protests	2	4.88	1	1.82	3	3.13
No Report	13	31.71	29	52.73	42	43.75
SEAS Report	2	4.88	2	3.64	4	4.17
Withdrawal	2	4.88	0	0.0	2	2.08
After-the-Fact	2	4.88	1	1.82	3	3.13
VIMS Report:						
Minor	38	92.68	36	65.45	74	77.08
Significant	1	2.44	14	25.45	15	15.63
No Report	2	4.88	5	9.09	7	7.29
Area Involved:						
No Report	6	14.63	13	23.64	19	19.79
Square Feet	27246		37786		65032	
Acres	0.62		0.87		1.49	
Area Permitted:						
Square Feet	26721		37686		64407	
Acres	0.61		0.87		1.48	

MLW = Mean Low Water

Table 2. Lancaster County Permit Review (cont'd)

Activity	1985		1986		TOTALS	
	NO.	%	NO.	%	NO.	%
A	12	29.27	14	25.45	16	16.67
B	0	0.0	2	3.64	2	2.08
C	0	0.0	3	5.45	3	3.13
D	11	26.83	16	29.09	27	28.13
E	10	24.39	18	32.73	28	29.17
F	27	65.85	35	63.64	62	64.58
G	2	4.88	3	5.45	5	5.21
H	3	7.32	6	10.91	9	9.38
I	0	0.0	0	0.0	0	0.0
J	0	0.0	0	0.0	0	0.0
K	0	0.0	0	0.0	0	0.0

A = Piers, Marginal Wharves, Boathouses or Marinas
 B = Dolphins or Moorings
 C = Boat Ramps
 D = Bulkheads
 E = Fill
 F = Riprap
 G = Dredging or Excavating
 H = Jetties, Groins or Breakwaters
 I = Intake or Outfall Structures
 J = Channel Modifications or Impoundment Structures
 K = Submarine Crossings, Overhead Crossings, or Tunnels

VMRC did not issue permits for wetlands applications in Lancaster County because the local board had already issued permits. However, VMRC reviewed permit decisions made by the board. VMRC approved 95 percent of the permits issued by the local board in 1985 and 98 percent in 1986 for a total of 97 percent during both years. It did not modify any of the permits during both years. One application received a general permit in 1986. The same application denied by the local board was also denied by VMRC.

The Corps approved approximately 97 percent of the 93 Lancaster County applications. Only three percent of those approved were modified in 1985 and four percent were modified in 1986. Of the applications approved, 95 percent received general permits in 1985 and 94 percent received general permits in 1986. The Corps denied the same application denied by the Lancaster County Board and VMRC.

About three percent of the applications received unfavorable comments from neighbors. Records concerning neighbors' comments were not available for 44 percent of the permits. SEAS reports were available for four percent of the applications. Three percent of the applications were filed after-the-fact. According to VIMS reports, 93 percent of the applications in 1985 involved activities of minor impact, while 65 percent in 1986 involved minor impacts. Only two percent were reported in 1985 as having possible significant impacts, while 25 percent in 1986 were reported

as having possible significant impacts. Seven percent of the applications did not have a VIMS report. A total of 27,246 square feet (0.62 acres) of wetlands were involved in the applications in 1985, with 26,721 square feet (0.61 acres) permitted. In 1986, 37,786 square feet (0.87 acres) were involved, and 37,686 (0.87 acres) received permits. Reports on acreage involved in the permits were not available for 20 percent of the applications.

York County (Table 3) received only 48 permit applications during both years. Two of those were withdrawn by the applicants in 1986. In 1985, 62 percent of the applications involved construction of piers and wharves. A high percentage also involved fill and riprap. In 1986, the majority of applications involved pier and wharf construction and placement of riprap and bulkheads. Eighty-one percent of the applications in 1985 were for private use and 74 percent in 1986 were for private use. During both years, eight percent involved commercial activities, two percent industrial activities, and 10 percent government activities.

The York County Board approved 90 percent of the 21 applications in 1985 and 89 percent of the 27 applications in 1986. Over 58 percent of the applications approved in 1985 were modified by the board, and only eight percent were modified in 1986. Two applications were denied in 1985.

Table 3. York County Permit Review

	1985		1986		TOTALS	
	NO.	%	NO.	%	NO.	%
Total Permits	21	--	27	--	48	--
Corps:						
Approved	19	90.48	21	77.78	40	83.33
Denied	2	9.52	0	0.0	2	4.17
Modified	2	9.52	0	0.0	2	4.17
General	19	90.48	19	70.37	38	79.17
No Jurisdiction	0	0.0	4	14.81	4	8.33
VMRC:						
Approved	19	90.48	25	92.59	44	91.67
Denied	2	9.52	0	0.0	2	4.17
Modified	0	0.0	0	0.0	0	0.0
General	2	9.52	0	0.0	2	4.17
Local Board:						
Approved	19	90.48	24	88.89	43	89.58
Denied	2	9.52	0	0.0	2	4.17
Modified	11	52.38	2	7.41	13	27.08
No Jurisdiction	0	0.0	1	3.70	1	2.08
Proposed Use:						
Private	17	80.95	20	74.07	37	77.08
Commercial	2	9.52	2	7.41	4	8.33
Industrial	0	0.0	1	3.70	1	2.08
Government	2	9.52	3	11.11	5	10.42
Comments:						
Protest	4	19.05	5	18.52	9	18.75
No Report	5	23.81	8	29.63	13	27.08
SEAS Report	7	33.33	5	18.52	12	25.00
Withdrawal	0	0.0	2	7.41	2	4.17
After-the-Fact	0	0.0	1	3.70	1	2.08
VIMS Report:						
Minor	20	95.24	12	44.44	32	66.67
Significant	0	0.0	11	40.74	11	22.92
No Report	1	4.76	4	14.81	5	10.42
Area Involved:						
No Report	5	23.81	6	22.22	11	22.92
Square Feet	20697		34259		54956	
Acres	0.48		0.79		1.26	
Area Permitted:						
Square Feet	20147		26759		46906	
Acres	0.46		0.61		1.08	

MLW = Mean Low Water

Table 3. York County Permit Review (cont'd)

Activity	1985		1986		TOTALS	
	NO.	%	NO.	%	NO.	%
A	13	61.90	12	44.44	25	52.08
B	0	0.0	1	3.70	1	2.08
C	2	9.52	0	0.0	2	4.17
D	11	52.38	10	37.04	21	43.75
E	11	52.38	6	22.22	17	35.42
F	5	23.81	12	44.44	17	35.42
G	4	19.05	6	22.22	10	20.83
H	4	19.05	1	3.70	5	10.42
I	0	0.0	1	3.70	1	2.08
J	0	0.0	0	0.0	0	0.0
K	1	4.76	0	0.0	1	2.08

A = Piers, Marginal Wharves, Boathouses or Marinas
 B = Dolphins or Moorings
 C = Boat Ramps
 D = Bulkheads
 E = Fill
 F = Riprap
 G = Dredging or Excavating
 H = Jetties, Groins or Breakwaters
 I = Intake or Outfall Structures
 J = Channel Modifications or Impoundment Structures
 K = Submarine Crossings, Overhead Crossings, or Tunnels

York County applications were not issued permits by VMRC because they were in areas where the local board had already issued permits. Ninety percent of the permits issued by the York County board were approved by VMRC in 1985 and 93 percent in 1986 for a total of 92 percent during both years. None of those were modified by VMRC, and four percent received general permits. VMRC denied the same permits as the York County Board.

The Corps approved 90 percent of the 21 York County permits in 1985 and 78 percent of the 27 permits in 1986. Fifteen percent of the permits in 1986 were not within the Corps jurisdiction because they were landward of mean high water. Four percent of the applications approved were modified by the Corps. All of the York County applications reviewed by the Corps in 1985 received general permits and 90 percent of those reviewed in 1986 received general permits. The same two applications denied by the local board and VMRC were also denied by the Corps.

Nineteen percent of the York County applications received unfavorable comments from neighbors in both 1985 and 1986. No reports from the neighbors were available for 27 percent of the applications. Only one application in 1986 was filed after-the-fact. Twenty-five percent of the applications received SEAS reports. VIMS reported that 95 percent of the applications in 1985 would have minor effects. However, in 1986 only 44 percent of the

application were reported as having minor effects while 41 percent were reported as having possible significant effects. The remainder of the applications did not have a VIMS report. Overall, 54,956 square feet (1.26 acres) of wetlands in York County were involved in the applications, and 46,906 square feet (1.08 acres) were permitted.

For all three localities (Table 4), 203 applications were reviewed. Of those, five were withdrawn by the applicants. The majority of the applications involved placement of bulkheads, fill and riprap. In 1985, 83 percent were for private use, 15 percent for commercial use, and two percent for government use. In 1986, 89 percent were for private use, four percent were for commercial use, two percent for industrial use, and five percent for government use.

Local boards approved 95 percent of the 203 applications received. Of those approved, 42 percent were modified in 1985 and 25 percent modified in 1986. Two percent were denied. VMRC did not issue permits for wetlands application because local boards had already issued permits. However, VMRC reviewed decisions made by the local boards. VMRC approved 95 percent of the permits during both years. Of those, only one was modified by VMRC. One percent of those approved received Virginia General Permits. VMRC denied the same permits denied by the local boards. The Corps approved 92 percent of the 203 applications. Nine

Table 4. Permit Review Totals

	1985		1986		TOTALS	
	NO.	%	NO.	%	NO.	%
Total Permits	95	--	108	--	203	--
Corps:						
Approved	89	93.68	98	90.74	187	92.12
Denied	3	3.16	2	1.85	5	2.46
Modified	8	8.42	3	2.78	11	5.42
General	81	85.26	92	85.19	173	85.22
No Jurisdiction	1	1.05	5	4.63	6	2.96
VMRC:						
Approved	90	94.74	103	95.37	193	96.07
Denied	3	3.16	2	1.85	5	2.46
Modified	1	1.05	0	0.0	1	0.49
General	2	2.11	1	0.93	3	1.48
Local Board:						
Approved	90	94.74	102	94.44	192	94.58
Denied	3	3.16	2	1.85	5	2.46
Modified	38	40.00	25	23.15	63	31.03
No Jurisdiction	0	0.0	1	0.93	1	0.49
Proposed Use:						
Private	79	83.16	96	88.89	175	86.21
Commercial	14	14.74	4	3.70	18	8.87
Industrial	0	0.0	2	1.85	2	0.99
Government	2	2.11	5	4.63	7	3.45
Comments:						
Protest	7	7.37	6	5.56	13	6.40
No Report	34	35.79	46	42.59	80	39.41
SEAS Report	13	13.68	10	9.26	23	11.33
Withdrawal	2	2.11	3	2.78	5	2.46
After-the-Fact	5	5.26	7	6.48	12	5.91
VIMS Report:						
Minor	86	90.53	63	58.33	149	73.40
Significant	4	4.21	33	30.56	37	18.23
No Report	5	5.26	12	11.11	17	8.37
Area Involved:						
No Report	12	12.63	21	19.44	33	16.26
Square Feet	149429		119493		268922	
Acres	3.43		2.74		6.17	
Area Permitted:						
Area Permitted	110354		78675		189029	
Acres Permitted	2.53		1.81		4.34	

MLW = Mean Low Water

Table 4. Permit Review Totals (cont'd)

Activity	1985		1986		TOTALS	
	NO.	%	NO.	%	NO.	%
A	28	29.47	33	30.56	61	30.05
B	1	1.05	3	2.78	4	1.97
C	2	2.11	8	7.41	10	4.93
D	42	44.21	40	37.04	82	40.39
E	40	42.11	40	37.04	80	39.41
F	47	49.47	60	55.56	107	52.71
G	13	13.68	10	9.26	23	11.33
H	8	8.42	7	6.48	15	7.39
I	0	0.0	2	1.85	2	0.99
J	0	0.0	0	0.0	0	0.0
K	2	2.11	0	0.0	2	0.99

A = Piers, Marginal Wharves, Boathouses or Marinas
 B = Dolphins or Moorings
 C = Boat Ramps
 D = Bulkheads
 E = Fill
 F = Riprap
 G = Dredging or Excavating
 H = Jetties, Groins or Breakwaters
 I = Intake or Outfall Structures
 J = Channel Modifications or Impoundment Structures
 K = Submarine Crossings, Overhead Crossings, or Tunnels

percent of those approved were modified in 1985 and three percent were modified in 1986. Ninety-three percent of the applications approved received general permits from the Corps. The Corps denied the same permits as the local boards and VMRC.

Six percent of the applications received unfavorable comments from the neighbors; however, 39 percent of the applications did not include information on reports from the neighbors. Six percent of the applications were filed after-the-fact. SEAS reports were received for 11 percent of the applications. According to the VIMS reports, 90 percent of the application in 1985 involved minor impacts and four percent involved significant impacts. In 1986, 58 percent had minor impacts and 31 percent had possible significant impacts. Overall, 268,922 square feet (6.17 acres) of wetlands were involved in the applications. 189,029 square feet (4.34 acres) were actually permitted.

Slight variations can be seen in the review decisions made by the local boards. This is not surprising considering that each area represents a different type of community, either rural, urban, or intermediate between the two conditions. During interviews, each board indicated that approximately 30 to 40 percent of the applicants requested a pre-application consultation. The number of

applications in Virginia, both numerically and as a percentage of all shoreline applications, has dropped since the VWA was implemented. At the same time, pre-application advisory actions by both VIMS and local boards has increased (Dawes, 1978). Pre-application consultation sometimes involves representatives from the local board, VIMS, VMRC and the Corps. VIMS and VMRC are usually involved in more difficult or controversial projects. Applicants are encouraged to consult with SEAS, other government agencies, or private consulting firms before filing applications.

During site visits, persons may be discouraged from filing applications or encouraged to modify applications if the representative feels that the project will not pass the review process. The number of changes made prior to submitting an application is important when considering the number of modifications or denials indicated by the file review. The data noted in this report may not represent the true number of modifications made. In addition, local boards indicated that they would dissuade applicants from filing permits which they knew would not pass VMRC or Corps reviews.

Norfolk modified a considerably greater percentage of its applications than the other two boards. This could be due to the fact that Norfolk had to consider a larger percentage of applications involving commercial, industrial,

and government activities. Most of the after-the-fact permits underwent some modifications by the local boards. Local boards may require that applicants make changes or additions to existing structures. Applications which had SEAS reports seemed to undergo fewer modifications than applications not having SEAS reports. However, one application with a SEAS report was denied. Applications which received protests from neighbors did not seem to undergo any increased modification or denial rates. Records containing neighbors comments were not available for a large number of applications. Applicants whose projects would have been denied by the local boards were discouraged during pre-application consultations from even submitting an application. This would again affect the data. Three of the five applications which were denied were rated by VIMS as having possible significant impacts. The other two were denied because of lack of demonstrated need for the projects. Because VIMS changed rating systems, a noticeable increase occurred from 1985 to 1986 in the number of applications from all three localities which were rated as having possible significant impacts. Two of the denied applications were for commercial use, two for private use and one for government use.

None of the permit decisions made by the three local boards examined here were reversed by VMRC or the Corps.

Very few permit modifications were made by VMRC or the Corps. This could be due, in part, to the pre-application consultations. According to minutes from VMRC meetings in 1985 and 1986, VMRC reviewed 51 applications for areas without wetlands boards. Of those reviewed, only one was denied. This is consistent with decisions made by the local boards.

The results of this study can be supplemented by another investigation conducted by Jones and Lynch (1978) who reviewed VWA permit applications filed in Virginia between July 1, 1972 and July 1, 1974. Of the 291 applications reviewed by VMRC and local boards, 86 percent were processed by local boards and 14 percent were processed by VMRC. Eighty-eight percent were approved, and 12 percent of the applications were denied. VMRC reviewed 40 of the 291 applications because no local boards had been set up in those areas where the applications originated. Of those reviewed by VMRC, 78 percent were approved while local boards approved 90 percent of their applications. Two of the local boards' decisions were reversed on their merits by VMRC, and six more were modified or reversed by VMRC or the courts on technical grounds. These six cases were reversed because of jurisdictional determinations or because they involved activities which were grandfathered by the Act. (Jones, 1976; Jones and Lynch, 1978). Activities in wetlands started prior to July 1, 1972 were exempt from the

VWA [Va. Code Ann., sec. 62.1-13.20 (1987)].

B. Agency Coordination

Each month a coordination meeting is held between federal and state agencies on current permit applications. The meetings are held at the Norfolk District Corps of Engineers' office. These meetings include representatives from the Corps, FWS, VMRC, VIMS, NMFS, SEAS, Virginia Council on the Environment, and the State Water Control Board. No representatives from the local boards are present. Corps field personnel assigned to specific applications make presentations on the individual applications. A presentation consists of a description of the project, including drawings or slides; location information; pertinent information from site visits; and a recommendation for denial, approval, or modification of the application. After the presentation, other representatives from the various agencies may ask questions or give comments and recommendations. Agencies such as FWS and NMFS can comment and make recommendations, but the Corps and VMRC are not required to follow them. The State Water Control Board issues National Pollution Discharge Elimination System [NPDES] permits for projects involving discharges into state waters. The Corps permits may be subject to conditions set by the State Water Control Board.

In its present form, the VWA requires VMRC to consult with various state environmental agencies before granting

permits. VMRC's jurisdiction is limited to state-owned subaqueous beds, and the statute gives advance approval for many uses of those beds. Furthermore, the Department of Game and Inland Fisheries has control of certain state-owned beds, apparently to the exclusion of VMRC (Virginia Law Review, 1982). It could not be determined from the files reviewed if the Corps adopted recommendations from other agencies.

A NMFS study [Treatment of National Marine Fisheries Service Recommendations by the Corps of Engineers in the Southeast Region of the United States From 1981 through 1985, (1986)] gives some indication of the Corps acceptance of recommendations from other agencies. According to a report on this study, the Corps generally accepts NMFS recommendations; however, the degree of acceptance varies among the different Corps districts. "This analysis showed the Corps fully accepted NMFS recommendations half of the time, partially accepted recommendations 24 percent of the time, and rejected them 26 percent of the time" (Barton, p. 188, 1987). NMFS also studied applicants' compliance with mitigation requirements in permits. It was found that applicants complied with the mitigation requirements 80 percent of the time. However, this percentage varied from district to district. NMFS also noted that approximately 50,000 acres of wetlands in the southeast region of the

United States were altered over a five year period from 1981 through 1985 without objections from the NMFS, and individual projects involving insignificant habitat losses caused serious cumulative losses (Barton, 1987).

The involvement of several agencies such as EPA in the review process and in consultation on permit applications often results in duplication of effort, poor interagency coordination, confusion, and delays (Congressional Research Service, 1982). For instance, EPA's review includes many of the same factors already considered by the Corps in its review of the application (Morgan and Parish, 1982). Suggestions have been made to limit the problems, including formalizing interagency coordination, imposing time limits on permit issuance, computerized applications, and development of programs to combine state and federal applications (Congressional Research Service, 1982). In Virginia, some confusion resulting from the involvement of several agencies in the review process has been eliminated by the monthly coordination meetings held at the Corps' office. In addition, Federal, state, and local permit applications in Virginia have been combined so that the applicant only fills out one application. One local board interviewed had computerized standard forms of correspondence to help limit the time involved in implementing the Act's requirements.

All local boards felt that information and recommendations received from state advisory agencies were important and weighed heavily in their decision-making process. Boards expressed concern over lack of support received from their city or county administrators. This results in small allotments for operating costs, lack of staff support, and little cooperation from local Commonwealth's and City Attornies and judicial officers (Jones, 1976). Boards may be faced with dealing with attornies brought in by the applicants. Most board members do not have legal backgrounds to handle such a situation. Attornies assigned to help local boards often do not have time to attend meetings with applicants. However, one board had one full-time attorney and another part-time attorney available to them during all meetings with applicants. It was suggested by local boards that an effort be made to assign a lawyer as a wetlands board member if the board did not have adequate legal council.

C. Trends, Impacts, and Problems

The following subsections contain discussions on the current effectiveness and problems associated with the wetlands protection program in Virginia.

1. Program Effectiveness in Wetlands Preservation

This subsection focuses on the effectiveness of the federal and state programs in reducing impacts of certain activities on wetlands and mitigation measures employed to compensate for losses to wetlands.

a. Impacts

The extent of wetlands protection afforded by section 404 of the CWA and section 10 of the RHA is difficult to determine. From the 1950's through the mid-1970's, losses of wetlands in the United States averaged 550,000 acres per year (Office of Technology Assessment, 1984). After implementation of Section 404 of the CWA, wetlands losses have averaged 300,000 acres or more per year. Of those, 50,000 acres were converted under federal permits and 250,000 acres were either not within the program's jurisdiction or were exempted by nationwide permits (Nagle, 1985). Wetlands losses have been reduced to a certain degree, but losses due to agricultural conversion still take a heavy toll (Barton, 1987). As of 1981, 60,000 or more activities had been undertaken on wetlands through general permits. Approximately 9700 individual permits had been

processed by that date. Forty-nine percent were approved without modifications, 16 percent were withdrawn and two percent were denied. Of the wetlands lost during that time, 87 percent were converted for agricultural use, eight percent lost to urban development, and five percent lost to other types of activities (Brown, 1984).

The effectiveness of the Corps' program varies among the different district offices. Some offices are more actively using permit review to preserve natural resources than other offices. Different offices give different priorities to environmental factors to be considered. The type of review given each application is closely related to the interests of the residents in the area. Yet, according to NEPA requirements, the Corps is responsible for preparation of impact statements for all projects which significantly affect the environment (Barker, 1976). Impact statements from a number of Corps District Offices indicated that the Corps did not include a formalized balancing of the public interest factors in its review. Instead, impacts of the proposed projects were simply listed (Rader, 1983). The public interest review is sometimes criticized because it is subject to interpretation by each individual permit reviewer, giving the reviewer too much discretion in the decisionmaking process (Morgan and Parish, 1982).

The VWA has had a significant impact on wetlands destruction in Virginia. Prior to the VWA, wetlands were being destroyed in Virginia at a rate of 400 to 600 acres per year. It has been reported that after implementation of the Act, the rate dropped to 20 acres or less per year, with most losses occurring in poorer quality or degraded marshes (Dawes, 1978). It was not determined if section 404 of the CWA contributed to the reduced rate of wetlands destruction in Virginia; but, because the section 404 permitting program is implemented in coordination with the state permitting program, section 404 probably has been instrumental in reducing the amount of wetlands destroyed in Virginia. Wetlands losses in the three localities examined for this study were estimated at 2.53 acres for 1985 and 1.81 acres for 1986, for a total of 4.34 acres during both years. VIMS estimated that 33 of the applications approved would have significant impacts. Of those 33, 28 involved 1.16 acres of wetlands. Five permits did not have estimates on wetlands area involved.

Rosenbaum (1978) conducted a study of 16 state wetland protection programs. Compared to other aspects of their programs, most states were more stringent on program objectives, breadth of program coverage, and permit application requirements. Most were weak in their enforcement efforts, with their weakest elements including exemptions, permit approval criteria, and specification of

mandatory development conditions. The 16 state programs were rated on eight key variables measuring program stringency for wetlands protection. Scores ranged from 25 to 38, with a mean score of 32. Virginia's program ranked fifteenth among the 16 state programs with a score of 27 (Rosenbaum, 1978).

b. Mitigation

Wetlands losses can be offset by mitigation measures. The Corps' application review process includes consideration of possible mitigation measures which could be employed to compensate for losses of wetlands. "Consideration of mitigation will occur throughout the permit application review process and includes avoiding, minimizing, rectifying, reducing, or compensating for resource losses." [33 C.F.R. part 320.4(r) (1986)]. Mitigation may include on-site activities or offsite activities such as construction of artificial wetlands. However, the effectiveness of artificial wetlands has been debated. In many cases mitigation requirements are not successful or are not carried out properly. The Corps often is not able to inspect sites for compliance with mitigation measures, especially smaller projects (Steinhart, 1987). Some mitigation activities may be reflected in modifications made to applications during the Corps review process. In this study, the Corps rarely modified permits issued by VMRC and the local boards. As was previously noted, the Corps only

modified five percent of the applications it reviewed. Possibly some mitigation measures are suggested to applicants during pre-application consultations. In addition, VMRC and the local boards' review of the permits resulted in some mitigation measures already being implemented.

In Virginia, a wetlands mitigation policy was established in Wetlands Guidelines developed by VMRC to help wetlands boards during the permit review. Four types of mitigation were recommended including avoiding adverse impacts altogether, minimizing adverse impacts through less damaging alternative actions to achieve the same goals, reducing the scope or magnitude of the project, and rectifying the adverse impacts through restoration. Restoration and artificial wetlands construction as a form of compensation have been viewed with reluctance by VIMS and VMRC. It is their opinion that these activities are difficult to achieve, may cause significant environmental problems, and may not fully compensate for losses to natural wetland areas (Barnard and Priest, 1985). The local boards are able to avoid or minimize impacts of proposed projects by modifying permit applications during the review process. In this study, local boards modified 42 percent of the applications approved in 1985 and 25 percent in 1986. Some mitigation measures may also be suggested to the applicant

during pre-application consultation. VMRC only modified one permit during the two year study period.

One permit application proceedings in York County resulted in an order to restore wetlands. In this case, a landowner had destroyed a section of wetlands by filling in the area prior to obtaining a permit. The person was ordered to file for an after-the-fact permit. The application was denied by the local board and subsequently denied without prejudice by VMRC and the Corps. The applicant was then ordered by the board to restore the area that had been destroyed. The applicant refused and the York County Wetlands Board filed suit [Wetlands Board of York County v. John E. Lane, Jr. and Trudy T. Lane (1985)]. The court ordered the defendant to restore the wetlands within 30 days, re-establish the original inter-tidal elevation of the area to support wetlands vegetation, remove fill and re-establish vegetation, and replace vegetation which fails to survive the first planting. The case is currently being appealed by the defendant.

2. Program Deficiencies

This section discusses deficiencies in the current program including overlapping jurisdiction, permitting delays, general permits, and funding.

a. Overlapping Jurisdiction

The federal wetlands program is criticized because it has too many subjective requirements and that Congress never

intended the program to develop as it has. It is also felt that the program suffers from excessive claims of geographic jurisdiction, confusing permit standards, and complex and excessive permit processing procedures. Often, the permit procedures are ambiguous, and it is difficult to determine what falls under the program's jurisdiction (Morgan and Parish, 1982).

Confusion from overlapping jurisdiction and delays in the permitting process have been eliminated to a large extent by the joint federal-state meeting held each month at the Corps' district office. The meeting allows federal and state agencies to avoid duplication of effort which might otherwise be a problem. In addition, other agencies such as the FWS, NMFS, and State Water Control Board can raise issues or ask questions about each application.

In addition to complaints concerning the federal program, the state and local programs have also met with some resistance. Confusing permitting requirements and long delays have resulted in many complaints. Board members noted that the application process was sometimes confusing to the applicant. Some problems with permitting programs have been relieved by combining application requirements for all three levels of government into one application. However, the applicant may still have to apply for permits with other agencies such as the State Water Control Board or the Health Department. Applicants often view the

application requirements as an invasion to their property rights. Public education has eliminated some problems by explaining the permitting process and the reasons for protecting wetlands.

Some feel that local and state control of wetlands results in too much weight being given to state and local interests and not enough weight being given to national interests. Wetlands may be of greater value to the nation than they are to a particular locality (Congressional Research Service, 1982). If the Corps provides adequate review of state and local decisions, this should not become a problem. Virginia legislators believed that a large measure of local control was necessary to prevent a central agency from ignoring special local conditions (Virginia Law Review, 1972).

One area of concern is that local governments will not provide adequate protection for wetlands. Local communities sometimes hesitate to provide protection for wetlands because property owners may demand lower property taxes due to increased land restrictions (Basile, 1987). It is possible that boards in communities with small tax bases may be more easily swayed by the arguments of commercial developers than would VMRC. VMRC should carefully supervise local boards to prevent them from giving special consideration to local economic advantages of commercial

development which would significantly harm the environment (Virginia Law Review, 1972).

One possible future controversy concerns the extent to which exempt federal agencies' projects must comply with state regulations and procedures. Although section 404 of the CWA exempts certain projects from state 404 programs, it does not prevent states from establishing requirements outside the 404 program. If federal projects must comply with conditions outside the scope of section 404, states may be able to veto a permit for a Federal project simply by denying water quality certification (Blumm, 1980).

b. Permitting Delays

Wetlands protection has been criticized because it depends on coordination between several levels of the government which causes many delays and "red tape" (Blumm, 1980). In addition, the application process is very time-consuming. Several aspects of the permit review process add to the processing time, including the analysis of possible alternative sites for proposed activities and the development of possible mitigation measures for losses to wetlands (Ray, 1987). In some cases, projects delays and alterations result in costs to the applicant which outweigh the value of the protected wetlands (Congressional Research Service, 1982).

Those who do apply for permits have to put up with long delays and often have to alter project designs which can add

significantly to the cost of the project (Barker, 1976). To eliminate some delays and avoid alterations to project designs during the permitting process, applicants are encouraged to participate in a pre-application consultation with the Corps or other agencies involved in the program. Applicants are also encouraged to hire consulting firms to design some construction projects, especially for larger projects.

VMRC and local boards have also had some complaints about delays. Extensive amounts of paperwork and correspondence requirements sometimes result in delays. One board indicated that it sent out on average 27 pieces of correspondence for each application. However, delays are not as much of a problem with state permits as they are with federal permits. An applicant usually receives a state permit within 60 to 90 days, but may have to wait as long as six months to a year for a federal permit. Jones and Lynch (1978) estimated that review by local or state agencies averages 52 days, while federal review ranged from 35 to 545 days with an average of 200 days (Jones and Lynch, 1978).

c. General Permits

One aspect of the program criticized for its ambiguity is the general permitting process. According to GAO, the Corps has treated similar discharges differently among the districts and has issued nationwide permits for many unauthorized activities (Blumm, 1980). Applicants are not

always sure if their work falls under general permitting requirements. Also, EPA's opposition to general permits has led to a large number of conditions and requirements being placed on the permits which again causes confusion for the applicants. These problems have created more paperwork, regulatory burdens, increased costs, and added delays for the permitting process (Morgan and Parish, 1982).

General permits are criticized by EPA, FWS, and other agencies because no case-by-case evaluation is used to prohibit activities or set conditions for protecting the wetlands. In addition, the CWA specifically allows general permits for categories of activities, but it says nothing about permits for categories of waters. The Corps claims that it can issue permits for categories of waters since Congress did not expressly prohibit them (Conner, 1983). Unless the terms of general permits impose reporting requirements, no mechanism exists for monitoring compliance with specified permit conditions or ensuring that particular discharges are authorized by the general permits. The cumulative impacts of general permits is largely a matter of speculation (Blumm, 1980). Applications approved by the Corps involved a significant number of general permits. Ninety-three percent of those approved by the Corps received general permits.

d. Enforcement

Another area of concern is enforcement of the wetlands protection statutes. Enforcement of mitigation requirements and other aspects of the permitting program have been ineffective in the past. Developers who choose to ignore the regulations do not have to deal with delays and paperwork. In addition, they can build without regard for environmental consideration. Many times, fines are relatively small and can easily be paid by the larger companies (Barker, 1976). Fines for violations to the RHA and the CWA are \$2500 and up to one year in jail [33 U.S.C.A. secs. 411 and 1344(r) (1986), as amended (1987)].

According to the Corps' regulations [33 C.F.R. part 326 (1986)], the Corps may order violators to restore wetlands destroyed by unauthorized activities. The Corps inspects about 50 percent of the authorized projects for compliance with permit conditions. If violations are found, the Corps rarely prosecutes, and violators usually do not comply with restoration orders. Adding to this problem is the reluctance of the U.S. Attorney's office to prosecute violations, especially in cases involving only a few acres (Nagle, 1985).

State and local agencies have problems enforcing compliance with conditions specified by permits and permit application requirements (Rosenbaum, 1978). Board members

noted that enforcement of permits is difficult. Most said there was not enough time for members to inspect every site. One board indicated that it had a Waterfront Officer which helped with enforcement efforts. In the future it hoped to start random end-of-the-year inspections of sites to see if applicants are complying with conditions set in permits. Many of the boards relied on citizen reports to help identify people who were filling in wetlands without the appropriate permits.

e. Funding

One area of general concern to all the boards was the lack of funding. Increased funding is needed to enhance enforcement efforts and to help make the application review process more efficient. Board members indicated that they needed more staff support in order speed up the review process, especially when sending out correspondence and keeping track of paperwork.

Increased funding would also be helpful for purchasing additional equipment. One board member said that he would like to be able to purchase a boat so that members could inspect hard-to-reach sites. Members now use their own vehicles, which often are not large enough to carry more than a few people. They also indicated that they would like to purchase a camera and have money for film so that they could take slides of the projects to use during board

meetings. It is too expensive for them to use their own equipment.

IV. Conclusion and Recommendations

Wetlands destruction in Virginia has been reduced by the VWA, CWA section 404, and RHA section 10. Changes in the present permitting program may be needed to help increase protection for wetlands. A large number of activities, such as agriculture and silviculture, are exempted from the permitting program. A reduction in the number of exemptions for some agriculture and silviculture activities would limit wetlands destruction. Enactment of the "swampbuster" policy and eliminating tax exemptions will reduce some wetlands destruction.

General permits are often blamed for contributing to large cumulative losses to wetlands. General permits are necessary so that the Corps can process a large number of less destructive activities with a limited amount of paperwork; however, increased control over activities carried out under general permits may be necessary to reduce the cumulative effects of the activities on wetlands.

Increased enforcement efforts would also help control wetlands destruction by reducing the number of unauthorized activities and permit violations. Enforcement activities are currently limited by a lack of personnel and a lack of equipment such as boats. Increased funds could provide for both additional personnel and equipment. Compliance with the regulations may be helped by increasing fines for

illegal activities. Larger companies would be more inclined to comply with permitting requirements if fines were larger.

Increased public awareness would increase the program's effectiveness. The public has become more aware of the value of wetlands and the permitting requirements involved in wetland alteration; however, there is still a large number of people who are not aware of wetlands permitting requirements. Increased public awareness would benefit the program in two ways. First, it would increase compliance with permitting requirements because more people would be aware of the law. In addition, wetlands boards rely a great deal on the public to report unauthorized activities. As more people become aware that alterations are illegal, more reports would be made.

Co-existing Federal, state, and local government control of wetlands has resulted in a complex permitting process which sometimes causes problems. Overlapping jurisdiction results in duplication of effort. There are also problems with delays in the reviewing process and confusion for the applicants. While overlapping jurisdiction is sometimes troublesome, it is also necessary to provide a system of checks and balances to ensure that state and national interests are protected. Virginia's program is made more efficient by combining the applications for each of the agencies into one form. Some problems from

overlapping jurisdiction could be eliminated by allowing representatives from the local boards to attend the monthly coordination meeting at the Norfolk District office. Local board members may have a better understanding of specific problems involving some applications. More support from city or county administrators and from legal council would also help local boards' effectiveness.

Local boards' effectiveness could also be improved by increased funding. Many boards do not have adequate staff support or operating funds. The extensive paperwork and correspondence associated with application review involve a significant amount of time and activity. Additional staff support would allow board members to spend more time carrying out site inspections and enforcement activities. In addition, delays in permit processing could also be eliminated to a certain extent. As was previously noted, one board uses computerized forms to help reduce the time involved in sending out correspondence. Other wetlands boards would benefit by implementing the same process.

V. References

- Barker, Neil J. "Sections 9 and 10 of the Rivers and Harbors Act of 1899: Potent Tool for Environmental Protection." Ecology Law Quarterly, Vol. 6, No. 1, pp. 109-159 (1976).
- Barnard, Thomas A. and Priest, Walter I., III. "Virginia's Wetland Mitigation/Compensation Policy: Its Evolution and Current Status," in Proceedings of the Conference - Wetlands of the Chesapeake, Burk, David M. and Kusler, Jon A., editors, Environmental Law Institute, Washington, D.C., pp. 327-333 (1985).
- Barry, Frank J. "The Evolution of the Enforcement Provisions of the Federal Water Pollution Control Act: A Study of the Difficulty in Developing Effective Legislation." Michigan Law Review, Vol. 68, No. 6, pp. 1103-1130 (1970).
- Barton, Katherine. "Federal Wetlands Protection Programs." Audubon Wildlife Report 1987. The National Audubon Society, DiSilvestro, Roger L. D., ed., Academic Press, Orlando (1987).
- Basile, Ralph J. "Wetlands Preservation." Environmental Comment, p. 8 (1987).
- Blumm, Michael C. "The Clean Water Act's Section 404 Permit Program Enters Its Adolescence: An Institutional and Programmatic Perspective." Ecology Law Quarterly, Vol. 8, No. 3, pp. 409-472 (1980).
- Brion, Denis J. "Virginia Natural Resources Law and the New Virginia Wetlands Act." Washington and Lee Law Review, Vol. 30, No. 1, pp. 19-71 (1973).
- Brown, William Y. "Federal Initiatives for the Preservation of Wetlands." Federal Bar News & Journal, Vol. 31, No. 2, pp. 70-74 (1984).
- Caplin, Lee Evan. "Is Congress Protecting Our Water?: The Controversy Over Section 404, Federal Water Pollution Control Act Amendments of 1972". University of Miami Law Review, Vol. 31, pp 445-495 (1977).
- Casto, Don M., III. "The Use of the Corps of Engineers Permit Authority as a Tool for Defending the Environment." Natural Resources Journal, Vol. 11, No. 1, pp 1-47 (1971).

Coastal Zone Management Act of 1972, 16 U.S.C.A. 1451 et seq. (1985), as amended (Supp. 1987).

Congressional Research Service. Wetland Management, U.S. Government Printing Office (1982).

Conner, James L. II. "Environmental Law - Nationwide Permits for Categories of Waters Issued by the Corps of Engineers Under FWPCA Section 404: A Legitimate Administrative Interpretation Ratified by Congress?" North Carolina Law Review, Vol. 61, No. 5, pp. 904-925 (1983).

Corps of Engineers [Corps]. "Norfolk District General Permits," (1987).

Council on the Environment. Virginia's Environment (1987).

Dawes, George M. "Implementation of the Virginia Wetlands Act of 1972." Proceedings of the National Wetland Protection Symposium, Montaneri, John H. and Kusler, Jon A., Chairmen, U.S. Fish and Wildlife Service, Washington, D.C., U.S. Government Printing Office, pp. 53-56 (1978).

Department of Transportation Act of 1966, 49 U.S.C.A. 1131 et seq. (1976), as amended (1987).

Drabelle, Dennis and Reed, Nathaniel P. The United States Fish and Wildlife Service, Westview Press, Boulder, Co., pp. 131-137 (1984).

Endangered Species Act, 16 U.S.C.A. 1531 et seq. (1985), as amended (Supp. 1987).

Environment Reporter Decision, 26 ERC No. 19, pp. 1678-1691, November 13, 1987.

Federal Water Pollution Control Act, 33 U.S.C.A. 1251 et seq. (1986), as amended (1987).

Finnell, Gilbert L., Jr. "The Federal Regulatory Role in Coastal Land Management." American Bar Foundation Research Journal, Vol. 1978, No. 2, pp. 153-288 (1978).

Fish and Wildlife Act, 16 U.S.C.A. 742(a) et seq. (1985), as amended (Supp. 1987).

Fish and Wildlife Coordination Act, 16 U.S.C.A. 661 et seq. (1985), as amended (Supp. 1987).

Food Security Act of 1985, 7 U.S.C.A. 1281 et seq. (1972),
as amended (Supp. 1987).

Hirsch, Allan and Segelquist, Charles A. "Position Paper:
Protection and Management of Riparian Ecosystems:
Activities and Views of the U.S. Fish and Wildlife
Service." Strategies for Protection and Management of
Floodplain Wetlands and Other Riparian Ecosystems,
Johnson, R. Roy and McCormick, Frank J., Technical
Coordinators, U.S. Government Printing Office, pp. 344-
352 (1978).

Horwitz, Elinor Lander. Our Nation's Wetlands, U.S.
Government Printing Office, Washington, D.C. (1978).

Jones, J. Claiborne. "Local Environmental Management - A
Case Study: The Virginia Wetlands Act, 1972-1974."
Thesis, William and Mary (1976).

Jones, J. Claiborne and Lynch, M.P.. "Local Environmental
Management - Can it Work? A Case Study of the Virginia
Wetlands Act." Coastal Zone Management Journal, Vol.
4, No. 1/2, pp.127-150 (1978).

Mabbs-Zeno, Carl C. Institutional Purpose and the
Management of Virginia Coastal Wetlands, Va. Tech
Dissertation, pp. 85-180 (1980).

Marine Protection, Research, and Sanctuaries Act, 16
U.S.C.A. 1431 et seq. (1985), as amended (Supp. 1987).

Migratory Marine Game-Fish Act, 16 U.S.C.A. 760 et seq.
(1985).

Morgan, Michael J. and Parish, Gary E. "History, Practice
and Emerging Problems of Wetlands Regulation:
Reconsidering Section 404 of the Clean Water Act."
Land and Water Law Review, Vol. 17, No.1, pp. 43-84
(1982).

Nagle, Eric W. "Wetlands Protection and the Neglected Child
of the Clean Water Act: A Proposal for Shared Custody
of Section 404." Virginia Journal of Natural Resources
Law, Vol. 5, No. 1, pp. 222-257 (1985).

National Environmental Policy Act, 16 U.S.C.A. 661 et seq.
(1985), as amended (Supp. 1987).

National Historic Preservation Act of 1966, 16 U.S.C.A. 470
et seq. (1985), as amended (Supp. 1987).

- Office of Technology Assessment [OTA]. Wetlands: Their Use and Regulation, Congress of the United States (1984).
- Power, Garrett. "The Fox in the Chicken Coop: The Regulatory Program of the U.S. Army Corps of Engineers." Virginia Law Review, Vol. 63, No. 4, pp. 503-559 (1977).
- Preservation of Historical and Archeological Act of 1974, 16 U.S.C.A. 469 et seq. (1985), as amended (Supp. 1987).
- Rader, Clifford D. "The Corps of Engineers' Public Interest Review Process: Is It Working?" Coastal Zone '83, Vol. 3, pp. 2086-2091 (1983).
- Ray, Bruce D. "Section 404 of the Clean Water Act: An EPA Perspective." Natural Resources & Environment, Vol. 2, No. 3, pp. 20-22, 49-51 (1987).
- Rivers and Harbors Act of 1899, 33 U.S.C.A. 401 et seq. (1986), as amended (Supp. 1987).
- Rosenbaum, Nelson. "The State Role in Wetlands Protection." Environmental Comment, pp. 9-13 (July 1978).
- Schneider, William F. "Federal Control Over Wetland Areas: The Corps of Engineers Expands Its Jurisdiction." University of Florida Law Review, Vol. 28, pp. 787-800 (1976).
- Seltzer, E. Manning and Steinberg, Robert E. "Wetlands and Private Development." Columbia Journal of Environmental Law, Vol. 12, No. 2, pp. 159-201 (1987).
- Steinhart, Peter. "Mitigation Isn't." Audubon, Vol. 89, No. 3, pp. 8-11 (1987).
- Tax Reform Act, 16 U.S.C.A. 3801 et seq. (1985), as amended (1987).
- Virginia Law Review, Vol. 58, No. 5. "State and Local Wetlands Regulation: The Problem of Taking Without Just Compensation," pp. 876-906 (1972).
- Virginia Marine Resources Commission. "Minutes From Monthly Meetings," (1985-1986).
- Virginia Marine Resources Commission. "Overview of the Marine Resources Commission," (1986).

Virginia Marine Resources Commission. Wetlands Guidelines (1974).

Virginia National Pollution Discharge Elimination System Permit Program, Va. Code Ann., sec. 62.1-44.15 et seq. (1987).

Virginia Wetlands Act of 1972, Va. Code Ann., sec. 62.1-13.1 et seq. (1987).

Wentz, Allen. Wetland Values and Management, South Dakota Cooperative Wildlife Research Unit (1984).

Appendix A
List of Abbreviations

CEQ	Council on Environmental Quality
Corps	Corps of Engineers
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
EIS	Environmental Impact Statement
ELI	Environmental Law Institute
EPA	Environmental Protection Agency
FONSI	Finding of No Significant Impact
FWCA	Fish and Wildlife Coordination Act
FWPCA	Federal Water Pollution Control Act
FWS	Fish and Wildlife Service
GAO	Government Accounting Office
MLW	Mean Low Water
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OTA	Office of Technology Assessment
RHA	Rivers and Harbors Act
SEAS	Shoreline Erosion Advisory Service
VDH&T	Virginia Department of Highways and Transportation
VIMS	Virginia Institute of Marine Science
VMRC	Virginia Marine Resources Commission
VWA	Virginia Wetlands Act

Appendix B
DATA EXTRACTION FORM

DATE ___-___-___

APPLICATION NO. ___-___-___

LOCAL BOARD: _____
APPLICANTS NAME: _____
ADDRESS: _____

NAME OF WATER BODY: _____
TRIBUTARY TO: _____
WATER BODY IS A: ___ NATURAL ___ MAN-MADE ___ UNCERTAIN
 B: ___ TIDAL ___ NON-TIDAL ___ UNCERTIAN

LOCATION OF ACTIVITY: _____

PROPOSED USE: ___ PRIVATE ___ COMMERCIAL
 ___ INDUSTRIAL ___ OTHER: _____
 ___ GOVERNMENT

PRIMARY PURPOSE: _____

SECONDARY PURPOSE: _____

DOES PROJECT INVOLVE FILLING, ALTERATION OR DEVELOPMENT OF
WETLANDS? ___ YES ___ NO ___ UNCERTAIN

PROPOSED ACTIVITY:
___ A. PIERS, MARGINAL WHARVES, BOATHOUSES, OR MARINAS
___ B. DOLPHINS OR MOORINGS
___ C. BOAT RAMPS
___ D. BULKHEADS
___ E. FILL
___ F. RIPRAP
___ G. DREDGING OR EXCAVATING
___ H. JETTIES, GROINS OR BREAKWATERS
___ I. INTAKE OR OUTFALL STRUCTURES
___ J. CHANNEL MODIFICATIONS OR IMPOUNDMENT STRUCTURES
___ K. SUBMARINE CROSSINGS, OVERHEAD CROSSINGS, OR TUNNELS

NEIGHBOR 1: ___ NO COMMENT ___ DOES NOT OBJECT ___ OBJECTS
NEIGHBOR 2: ___ NO COMMENT ___ DOES NOT OBJECT ___ OBJECTS
NEIGHBOR 3: ___ NO COMMENT ___ DOES NOT OBJECT ___ OBJECTS
NEIGHBOR 4: ___ NO COMMENT ___ DOES NOT OBJECT ___ OBJECTS

VIMS APPLICATION REPORT

TYPES OF WETLANDS: _____

ACREAGE INVOLVED: _____

COMMENTS: _____

ACTION TAKEN BY LOCAL BOARD

ACTION: _____
REASONS: _____

ACTION TAKEN BY VMRC

ACTION: _____
REASONS: _____

ACTION TAKEN BY CORPS OF ENGINEERS

ACTION: _____
REASONS: _____

FWS: _____

NMFS: _____

COMMENTS

Appendix C
Application Review Information
Legend

Federal Action:

CGP = Corps General Permit
NW = Nationwide

State Action:

MLW = Mean Low Water
VGP = Virginia General Permit

VIMS = Virginia Institute of Marine Science

SEAS = Shoreline Erosion Advisory Service

Modified:

L = Local
S = State
F = Federal

After = After-The-Fact

Activity:

A = Piers, Marginal Wharves, Boathouses or Marinas
B = Dolphins or Moorings
C = Boat Ramps
D = Bulkheads
E = Fill
F = Riprap
G = Dredging or Excavating
H = Jetties, Groins or Breakwaters
I = Intake or Outfall Structures
J = Channel Modifications or Impoundment Structures
K = Submarine Crossings, Overhead Crossings, or Tunnels

Norfolk Application Information
1985

NUMBER	FEDERAL ACTION	STATE ACTION	LOCAL ACTION
85-0039	NW	approved	approved
85-0040	CGP-17.19	approved	approved
85-0071	approved	approved	approved
85-0107	CGP-19	approved	approved
85-0126	no jurisdiction	approved	approved
85-0128	NW	approved	approved
85-0140	CGP-18	approved	approved
85-0201	approved	approved	approved
85-0299	CGP-18	approved	approved
85-0384	approved	approved	approved
85-0443	approved	approved	approved
85-0471	denied	denied	denied
85-0521	CGP-19	approved	approved
85-0526	CGP-18	approved	approved
85-0528	CGP-19	approved	approved
85-0535	CGP-19	approved	approved
85-0862	CGP-19	approved	approved
85-0922	NW	approved	approved
85-0957	CGP-19	approved	approved
85-1031	CGP-18	approved	approved
85-1032	CGP-19	approved	approved
85-1169	CGP-18	approved	approved
85-1172	CGP-19	approved	approved
85-1212	approved	approved	approved
85-1214	CGP-18	approved	approved
85-1224	approved	approved	approved
85-1274	NW	approved	approved
85-1286	CGP-19	approved	approved
85-1291	CGP-19	approved	approved
85-1305	NW	approved	approved
85-1423	CGP-19	approved	approved
85-1424	CGP-19	approved	approved
85-1425	CGP-19	approved	approved

Norfolk Application Information
1986

NUMBER	FEDERAL ACTION	STATE ACTION	LOCAL ACTION
86-0008	CGP-19	approved	approved
86-0186	CGP-17,19	approved	approved
86-0244	withdrawn	withdrawn	withdrawn
86-0269	CGP-17	approved	approved
86-0299	NW	approved	approved
86-0309	CGP-17,NW	approved	approved
86-0337	CGP-18,19	approved	approved
86-0466	CGP-19	approved	approved
86-0682	CGP-19	approved	approved
86-0706	CGP-19	approved	approved
86-0706	CGP-18	approved	approved
86-0733	approved	approved	approved
86-0816	denied	denied	denied
86-0832	no jurisdiction	approved	approved
86-0946	NW	approved	approved
86-1027	NW	approved	approved
86-1069	NW	approved	approved
86-1113	CGP-19,NW	approved	approved
86-1176	NW	approved	approved
86-1179	NW	approved	approved
86-1181	NW	approved	approved
86-1319	CGP-19	approved	approved
86-1464	CGP-19	approved	approved
86-1476	CGP-17,19	approved	approved
86-1477	CGP-19	approved	approved
86-1563	CGP-19,20	approved	approved

Norfolk Application Information
1985

NUMBER	AREA (ft. ²)	VIMS REPORT	SEAS REPORT	MODIFIED
85-0039	no report	no report	X	
85-0040	3675	minor		L
85-0071	3000	minor		L F
85-0107	50	minor		
85-0126	675	minor		L
85-0128	1950	minor		L
85-0140	460	minor	X	L
85-0201	20000	significant		L
85-0299	200	minor		L F
85-0384	2500	minor		L F
85-0443	no report	no report		L F
85-0471	38000	significant		
85-0521	600	minor		L
85-0526	560	minor		L
85-0528	240	minor		L
85-0535	800	minor		
85-0862	810	minor	X	
85-0922	50	minor		L
85-0957	300	minor		
85-1031	950	minor		
85-1032	500	minor		
85-1169	17000	minor		L
85-1172	450	minor	X	L
85-1212	1420	minor		L
85-1214	100	minor		L S
85-1224	3500	significant		L F
85-1274	300	minor		
85-1286	1190	minor		L
85-1291	1350	minor		
85-1305	370	minor		L
85-1423	92	minor		
85-1424	158	minor		
85-1425	236	minor		

Norfolk Application Information
1986

NUMBER	AREA (ft. ²)	VIMS REPORT	SEAS REPORT	MODIFIED
86-0008	180	minor		
86-0186	100	minor		L
86-0244	no report	no report		
86-0269	2400	significant		L F
86-0299	820	minor		L
86-0309	100	minor		L
86-0337	400	minor		L
86-0466	1050	minor		
86-0682	180	significant		L
86-0706	240	minor		
86-0706	210	significant		
86-0733	300	significant		
86-0816	33218	significant		
86-0832	3600	significant		L
86-0946	300	minor		
86-1027	150	minor		
86-1069	200	no report		
86-1113	450	significant		L
86-1176	720	minor	X	
86-1179	390	minor		
86-1181	280	minor	X	
86-1319	280	minor		L
86-1464	150	minor		L
86-1476	1000	minor	X	L
86-1477	no report	no report		
86-1563	730	significant		

Norfolk Application Information
1985

NUMBER	OBJECTIONS	USE	ACTIVITY	AFTER
85-0039	yes	private	F	
85-0040	no	private	A D E	
85-0071	no report	commercial	A F G	
85-0107	no	commercial	K	
85-0126	no	private	D E F	X
85-0128	no report	private	F	
85-0140	no	private	D E F	
85-0201	no report	commercial	D E G	X
85-0299	no report	private	D E	
85-0384	no report	commercial	D E F	
85-0443	no report	commercial	D E G	X
85-0471	no report	commercial	D E G	
85-0521	no	private	G	
85-0526	no	private	F	
85-0528	no	private	D E	
85-0535	no report	private	F	
85-0862	no	private	D E F	
85-0922	no	private	D E	
85-0957	no	private	D	
85-1031	no report	commercial	A D E	
85-1032	no report	commercial	D E	
85-1169	no report	commercial	D E F G H	
85-1172	no	private	F	
85-1212	no	commercial	E F	
85-1214	no report	commercial	B G	
85-1224	no report	private	D E	
85-1275	no	private	D E	
85-1286	no	private	F	
85-1291	no	private	F	
85-1305	no	private	F	
85-1423	no report	private	D E	
85-1424	no report	private	D E	
85-1424	no report	private	D E	

Norfolk Application Information
1986

NUMBER	OBJECTIONS	USE	ACTIVITY	AFTER
86-0008	no report	private	C D E	
86-0186	no	private	A D	
86-0244	no report	private	C D E G	
86-0269	no	private	A E F	
86-0299	no	private	E F	X
86-0309	no report	private	A D E	
86-0337	no	private	A E F	
86-0466	no	private	E F	
86-0682	no	industrial	F	
86-0706	no report	government	F I	
86-0706	no	private	E	
86-0733	no report	commercial	A D E	
86-0816	no report	government	D E F	
86-0832	no report	commercial	E	
86-0946	no	private	F	
86-1027	no report	private	D E	
86-1069	no	private	D	X
86-1113	no report	private	D E	
86-1176	no	private	F	
86-1179	no	private	D E	
86-1181	no	private	E F	
86-1319	no	private	A C D	X
86-1464	no	private	D	X
86-1476	no	private	C D F	X
86-1477	no	private	F	
86-1563	no	private	A C D E F	

Lancaster County Application Information
1985

NUMBER	FEDERAL ACTION	STATE ACTION	LOCAL ACTION
85-0143	CGP-17	approved	approved
85-0153	CGP-09,NW	approved	approved
85-0191	NW	approved	approved
85-0210	CGP-19	approved	approved
85-0277	approved	approved	approved
85-0286	NW	approved	approved
85-0287	CGP-19	approved	approved
85-0375	NW	approved	approved
85-0403	CGP-17	approved	approved
85-0404	CGP-19	approved	approved
85-0412	CGP-18,19	approved	approved
85-0459	withdrawn	withdrawn	withdrawn
85-0479	CGP-19	approved	approved
85-0492	CGP-19	approved	approved
85-0493	CGP-17,19	approved	approved
85-0561	CGP-19	approved	approved
85-0564	CGP-19	approved	approved
85-0585	CGP-18	approved	approved
85-0609	NW	approved	approved
85-0651	CGP-19	approved	approved
85-0678	CGP-19	approved	approved
85-0718	CGP-17	approved	approved
85-0822	CGP-19	approved	approved
85-0879	approved	approved	approved
85-0934	CGP-18,NW	approved	approved
85-0938	CGP-19	approved	approved
85-1011	CGP-19	approved	approved
85-1012	CGP-19	approved	approved
85-1034	CGP-17	approved	approved
85-1105	NW	approved	approved
85-1111	withdrawn	withdrawn	withdrawn
85-1180	CGP-19,NW	approved	approved
85-1183	CGP-19	approved	approved
85-1199	CGP-19	approved	approved
85-1223	NW	approved	approved
85-1287	CGP-17,19	approved	approved
85-1312	NW	approved	approved
85-1333	CGP-19	approved	approved
85-1351	CGP-19	approved	approved
85-1359	CGP-18,19	approved	approved
85-1416	CGP-19	approved	approved

Lancaster County Application Information
1986

NUMBER	FEDERAL ACTION	STATE ACTION	LOCAL ACTION
86-0001	NW	approved	approved
86-0034	NW	approved	approved
86-0035	CGP-17,NW	approved	approved
86-0040	CGP-17,19	approved	approved
86-0048	CGP-18	approved	approved
86-0107	NW	approved	approved
86-0121	NW	approved	approved
86-0148	NW	approved	approved
86-0172	approved	approved	approved
86-0261	CGP-19	approved	approved
86-0263	CGP-18	approved	approved
86-0278	CGP-17	approved	approved
86-0361	CGP-19	approved	approved
86-0370	CGP-19	approved	approved
86-0392	CGP-19	approved	approved
86-0403	CGP-18	approved	approved
86-0428	CGP-17	approved	approved
86-0515	NW	approved	approved
86-0571	CGP-19	VGP-2	approved
86-0580	CGP-19	approved	approved
86-0587	CGP-17,19	approved	approved
86-0599	denied	denied	denied
86-0683	CGP-19	approved	approved
86-0726	NW	approved	approved
86-0759	NW	approved	approved
86-0783	CGP-19	approved	approved
86-0808	CGP-19	approved	approved
86-0819	CGP-11,18,19,NW	approved	approved
86-0916	CGP-19	approved	approved
86-0996	approved	approved	approved
86-1017	NW	approved	approved
86-1022	CGP-19	approved	approved
86-1030	CGP-19	approved	approved
86-1075	CGP-19	approved	approved
86-1079	CGP-19	approved	approved
86-1085	CGP-09,19	approved	approved
86-1109	CGP-18	approved	approved
86-1130	CGP-19	approved	approved
86-1189	CGP-18	approved	approved
86-1294	CGP-19	approved	approved
86-1296	CGP-18	approved	approved

Lancaster County Application Information
1986

NUMBER	FEDERAL ACTION	STATE ACTION	LOCAL ACTION
86-1404	NW	approved	approved
86-1406	CGP-19	approved	approved
86-1413	CGP-09,NW	approved	approved
86-1414	CGP-19	approved	approved
86-1415	CGP-19	approved	approved
86-1424	CGP-18	approved	approved
86-1506	CGP-17	approved	approved
86-1522	CGP-17,NW	approved	approved
86-1554	CGP-19	approved	approved
86-1602	NW	approved	approved
86-1665	CGP-19	approved	approved
86-1719	CGP-19	approved	approved
86-1721	CGP-19	approved	approved
86-1721	approved	approved	approved

Lancaster County Application Information
1985

NUMBER	AREA (ft. ²)	VIMS REPORT	SEAS REPORT	MODIFIED
85-0143	no report	no report		
85-0153	200	minor		L
85-0191	2000	minor		
85-0210	5	minor		
85-0277	15	minor		F
85-0286	900	minor		
85-0287	508	minor		
85-0375	1140	minor		
85-0403	0	minor		
85-0404	2320	minor	X	
85-0412	600	minor		L
85-0459	500	significant		
85-0479	10	minor		
85-0492	600	minor		L
85-0493	800	minor		
85-0561	0	minor		L
85-0564	400	minor		
85-0585	1500	minor		L
85-0609	2072	minor		
85-0651	no report	minor		
85-0678	672	minor		
85-0718	1800	minor		
85-0822	200	minor		
85-0879	662	minor	X	
85-0934	155	minor		
85-0938	no report	minor		
85-1011	950	minor		
85-1012	no report	minor		
85-1034	no report	no report		
85-1105	300	minor		
85-1111	25	minor		
85-1180	300	minor		
85-1183	230	minor		
85-1199	15	minor		
85-1223	190	minor		
85-1287	no report	minor		
85-1312	17	minor		L
85-1333	2400	minor		
85-1351	1000	minor		
85-1359	760	minor		
85-1416	4000	minor		L

Lancaster County Application Information
1986

NUMBER	AREA (ft. ²)	VIMS REPORT	SEAS REPORT	MODIFIED
86-0001	91	minor		
86-0034	440	minor		
86-0035	400	minor		
86-0040	850	minor		L
86-0048	750	minor		
86-0107	820	minor		
86-0121	no report	no report		
86-0148	600	minor		
86-0172	20	minor		F
86-0261	725	minor		
86-0263	8460	minor		L F
86-0278	100	minor	X	
86-0361	200	minor		
86-0370	400	minor		
86-0392	no report	no report		
86-0403	420	minor		
86-0428	1500	significant		L
86-0515	250	minor		
86-0571	no report	no report		
86-0580	no report	minor		
86-0587	0	minor		
86-0599	100	significant		
86-0683	40	minor		
86-0726	10	minor		
86-0759	1150	minor		L
86-0783	870	significant		
86-0808	4	minor		
86-0819	662	minor		
86-0916	77	significant		L
86-0996	2529	significant		L
86-1017	100	significant		L
86-1022	no report	significant		L
86-1030	50	minor		
86-1075	no report	significant		
86-1079	no report	significant		
86-1085	no report	minor		
86-1109	100	minor		
86-1130	no report	minor		L
86-1189	860	significant		
86-1294	2000	significant		
86-1296	no report	significant		L

Lancaster County Application Information
1986

NUMBER	AREA (ft. ²)	VIMS REPORT	SEAS REPORT	MODIFIED
86-1404	950	minor		L
86-1406	no report	minor		
86-1413	2800	minor		
86-1414	700	minor		
86-1415	5500	minor		
86-1424	600	significant		
86-1506	820	minor		
86-1522	218	significant		L
86-1554	no report	no report		
86-1602	1200	minor	X	
86-1665	no report	no report		
86-1719	70	minor		
86-1721	150	minor		
86-1721	200	minor		

Lancaster County Application Information
1985

NUMBER	OBJECTIONS	USE	ACTIVITY	AFTER
85-0143	no	private	D E	
85-0153	no	private	A F	
85-0191	no report	private	F	
85-0210	no report	private	A F	
85-0277	no report	private	D E F H	
85-0286	no	private	F	
85-0287	no	private	F	
85-0375	no	private	F	
85-0403	yes	commercial	A	
85-0404	no report	private	D E F	
85-0412	no	private	A D E	
85-0459	no	private	D	
85-0479	no	private	H	
85-0492	no report	private	F	
85-0493	no	private	A F	
85-0561	no	private	G	
85-0564	no	private	F	
85-0585	no report	private	G	
85-0609	no	private	F	
85-0651	no report	private	A D E F	X
85-0678	no	private	A	
85-0718	no report	private	F	
85-0822	no	private	F	
85-0879	no	private	A F H	
85-0934	no	private	D E F	
85-0938	no	private	F	
85-1011	no	private	F	
85-1012	no	private	D	
85-1034	no	private	A	
85-1105	no report	private	F	
85-1111	no report	private	A	
85-1180	no report	private	A D E	
85-1183	no	private	D E	
85-1199	no	private	D E	
85-1223	no	private	F	
85-1287	no	private	A F	
85-1312	no	private	F	
85-1333	no report	private	F	
85-1351	no report	private	E F	X
85-1359	yes	private	A F	
85-1416	no	private	F	

Lancaster County Application Information
1986

NUMBER	OBJECTIONS	USE	ACTIVITY	AFTER
86-0001	no	private	D	
86-0034	no	private	D E F	
86-0035	no report	private	A D F	
86-0040	yes	private	A C F	
86-0048	no	private	H	
86-0107	no	private	F	
86-0121	no	private	F	X
86-0148	no	private	F	
86-0172	no	private	A D E	
86-0261	no report	private	F	
86-0263	no report	private	A D E	
86-0278	no	private	F	
86-0361	no	private	E F	
86-0370	no report	private	F	
86-0392	no report	private	C F	
86-0403	no	private	D E	
86-0428	no	private	A F	
86-0515	no report	private	F	
86-0571	no	private	H	
86-0580	no report	private	A B F	
86-0587	no	private	A C	
86-0599	no report	private	G	
86-0683	no	private	B F	
86-0726	no	private	F	
86-0759	no	private	E F	
86-0783	no report	private	F	
86-0808	no	private	E F	
86-0819	no	private	A F H	
86-0916	no	private	D E	
86-0996	no report	private	E F	
86-1017	no report	private	A D	
86-1022	no	private	D E H	
86-1030	no report	private	D	
86-1075	no report	private	E F	
86-1079	no report	private	D E	
86-1085	no report	private	A D E F	
86-1109	no report	private	A F G	
86-1130	no report	private	F	
86-1189	no report	private	E H	
86-1294	no report	private	F	
86-1296	no report	private	G	

Lancaster County Application Information
1986

NUMBER	OBJECTIONS	USE	ACTIVITY	AFTER
86-1404	no report	private	F	
86-1406	no	private	E F	
86-1413	no	private	A F	
86-1414	no report	private	D E	
86-1415	no report	private	E F	
86-1424	no	private	G	
86-1506	no report	private	F	
86-1522	no report	private	A D	
86-1554	no report	private	F	
86-1602	no report	private	F H	
86-1665	no	private	D	
86-1719	no	private	F	
86-1721	no report	private	F	
86-1721	no report	private	A D E	

York County Application Information
1985

NUMBER	FEDERAL ACTION	STATE ACTION	LOCAL ACTION
85-0001	CGP-18	approved	approved
85-0006	CGP-18	approved	approved
85-0051	CGP-18	approved	approved
85-0161	CGP-17,18	approved	approved
85-0215	denied	denied	denied
85-0222	CGP-19,NW	approved	approved
85-0364	CGP-18	approved	approved
85-0465	CGP-19	approved	approved
85-0474	CGP-17,19	VPG-2	approved
85-0508	CGP-17,19	approved	approved
85-0533	CGP-19	approved	approved
85-0808	CGP-17,19	approved	approved
85-0978	denied	denied	denied
85-1120	CGP-19	approved	approved
85-1129	CGP-18	approved	approved
85-1134	CGP-19	VGP-2	approved
85-1157	CGP-17,19	approved	approved
85-1216	CGP-18,19,NW	approved	approved
85-1290	CGP-18	approved	approved
85-1344	NW	approved	approved
85-1417	CGP-17	approved	approved

York County Application Information
1986

NUMBER	FEDERAL ACTION	STATE ACTION	LOCAL ACTION
86-0073	CGP-19	approved	no jurisdiction
86-0100	CGP-18	approved	approved
86-0167	withdrawn	withdrawn	withdrawn
86-0168	withdrawn	withdrawn	withdrawn
86-0206	no jurisdiction	approved	approved
86-0295	CGP-19	approved	approved
86-0329	CGP-18	approved	approved
86-0391	CGP-17	approved	approved
86-0433	NW	approved	approved
86-0476	CGP-17	approved	approved
86-0526	CGP-19	approved	approved
86-0557	CGP-19	approved	approved
86-0566	CGP-18	approved	approved
86-0606	approved	approved	approved
86-0662	CGP-19	approved	approved
86-0679	CGP-18,19	approved	approved
86-0800	CGP-19	approved	approved
86-0941	no jurisdiction	approved	approved
86-1112	CGP-19	approved	approved
86-1165	approved	approved	approved
86-1229	CGP-18	approved	approved
86-1266	CGP-18	approved	approved
86-1293	no jurisdiction	approved	approved
86-1425	CGP-18	approved	approved
86-1451	CGP-18	approved	approved
86-1475	no jurisdiction	approved	approved
86-1490	CGP-18	approved	approved

York County Application Information
1985

NUMBER	AREA (ft. ²)	VIMS REPORT	SEAS REPORT	MODIFIED
85-0001	1750	minor		
85-0006	no report	minor		L
85-0051	12000	minor	X	L
85-0161	1000	minor		L
85-0215	550	minor		
85-0222	50	minor		L
85-0364	no report	minor	X	L
85-0465	110	minor		
85-0474	100	minor		L
85-0508	170	minor	X	
85-0533	135	minor		
85-0808	200	minor		
85-0978	no report	minor	X	
85-1120	170	minor		
85-1129	100	minor		L F
85-1134	no report	minor		L
85-1157	500	minor	X	
85-1216	2700	minor		L F
85-1290	1000	minor	X	L
85-1344	162	minor	X	
85-1417	no report	no report		L

York County Application Information
1986

NUMBER	AREA (ft. ²)	VIMS REPORT	SEAS REPORT	MODIFIED
86-0073	no report	no report		
86-0100	7500	minor	X	
86-0167	no report	no report		
86-0168	7500	significant		
86-0206	no report	minor		
86-0295	300	significant	X	
86-0329	no report	no report		
86-0391	160	significant		
86-0433	45	minor		
86-0476	1520	significant	X	
86-0526	690	minor		
86-0557	10	minor		
86-0566	800	significant		
86-0606	no report	significant		
86-0662	600	minor		
86-0679	no report	no report		
86-0800	530	minor		
86-0941	564	significant		L
86-1112	370	significant		
86-1165	122	significant		
86-1229	3600	minor		
86-1266	13800	minor	X	
86-1293	60	minor		
86-1425	1600	significant		
86-1451	20	minor		
86-1475	768	minor		
86-1490	1200	significant	X	L

York County Application Information
1985

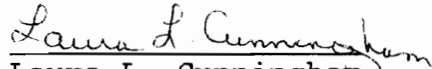
NUMBER	OBJECTIONS	USE	ACTIVITY	AFTER
85-0001	yes	commercial	A D E G	
85-0006	no	government	G K	
85-0051	no	private	A F	
85-0161	no	private	A D E	
85-0215	no	private	D E	
85-0222	no	private	A C	
85-0364	no report	government	H	
85-0465	no	private	D E	
85-0474	no report	private	A C D E H	
85-0508	no	private	A D E	
85-0533	no	private	D E	
85-0808	no	private	A D E	
85-0978	yes	commercial	A G	
85-1120	no report	private	D E	
85-1129	yes	private	A D E G	
85-1134	no report	private	H	
85-1157	no	private	A F	
85-1216	yes	private	A F	
85-1290	no	private	A F H	
85-1344	no	private	F	
85-1417	no report	private	A D E	

York County Application Information
1986

NUMBER	OBJECTIONS	USE	ACTIVITY	AFTER
86-0073	no report	commercial	A	
86-0100	no	government	E F I	
86-0167	no report	government	G	
86-0168	no	private	A D E F	
86-0206	no	private	F	
86-0295	no	private	A F	
86-0329	no report	government	A	
86-0391	no report	private	A B D E G	
86-0433	no	private	D	
86-0476	no	private	F	
86-0526	no report	private	A F	
86-0557	no	private	D	
86-0566	no	private	A D E	
86-0606	yes	commercial	A G H	
86-0662	no report	private	D	
86-0679	no report	private	A F	X
86-0800	no	private	A F	
86-0941	no report	private	D E	
86-1112	no	private	D E	
86-1165	no	private	D	
86-1229	yes	private	H	
86-1266	yes	industrial	A F G	
86-1293	no	private	F	
86-1425	no	private	D G	
86-1451	yes	commercial	A	
86-1475	no	private	F	
86-1490	yes	private	F G	

Vita

Laura L. Cunningham was born April 29, 1985 in Houston, Texas. From 1981 to 1982 she studied biology at Hiram College in Hiram, Ohio. She continued her undergraduate study in 1982 at Tennessee Technological University in Cookeville, Tennessee. In 1985, she obtained a B.S. degree in Wildlife Management. From 1985 through 1986 she worked in litigation support support work on hazardous waste sites. Her graduate work began in 1986 at Virginia Polytechnic Institute and State University. In 1988 she obtained an M.S. degree in Environmental Science and Engineering.


Laura L. Cunningham
Laura L. Cunningham